

Date:25/08/2014

Application for Internship Training

To

The HoD

**Computer Science & Engineering Department,
TGPCET, Nagpur**

Subject: Application for the issue the permission letter for Internship Training

Company Name: MicroOrange Technologies

Applicant Name: Manoj Kolte, Diksha Mankar, Vaishali Pawar, Kalyani Sawarkar

Respected Madam,

We the students of VII Semester Computer Science & Engineering Department of Tulsiramji Gaikwad-Patil College of Engineering & Technology Nagpur, request you to allow me to do internship. The duration of training is for 4 months.

So kindly permit us as we have been thoroughly preparing industrial working culture under the guidance of experienced employee and gaining practical knowledge will develop our professional level with effectiveness.

Thanking You.

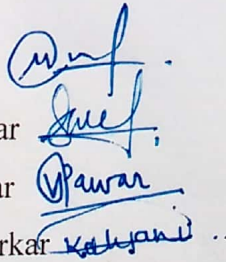
Yours faithfully,

1. Manoj Kolte

2. Diksha Mankar

3. Vaishali Pawar

4. Kalyani Sawarkar



Tulsiramji Gaikwad-Patil College of Engineering & Technology

Department of Computer Science & Engineering

Session 2014-15

Ref: TGPCET/CSE/2014-15/184

Date : 27/08/2014

To,
The Manager,
MicroOrange Technologies
Nagpur.

Subject:- Internship Training for students of B.E. VII SEMESTER of Computer Science and Engineering Department in your esteemed organization.

Respected Sir/Madam,

Greetings from Tulsiramji Gaikwad-Patil College of Engineering and Technology, Mohagaon, Wardha Road, Nagpur.

We are conducting four years fulltime Engineering degree in Computer Science and Engineering course affiliated to R.T.M. Nagpur University, recognized by Maharashtra State Government and approved by AICTE, New Delhi.

Some of our students of B.E.(CSE) VII Semester are willing to take internship training in software technology practices in your esteem organization. After completion of training students has to submit their work as a Internship report to the Head of Department.

The following students of our college in B.E. VII Sem(CSE) had approached you for their Internship Training in your organization :-

Sr. No.	Name of Students
1	Manoj Kolte
2	Diksha Mankar
3	Vaishali Pawar
4	Kalyani Sawarkar

I assure you that the information collected by the students will be exclusively used for academic pursuits only. You are requested to co-operate and needful for giving the opportunity to work with your organization.

With Regards



Prof. Roshani Talmale
HoD (CSE)

T.G.P.C.E.T, Nagpur

Head of Dept. (Computer Science & Engg.)
Tulsiramji Gaikwad-Patil College of
Engineering and Technology, Nagpur

Ref No. MOT/TRN/1415/9/07

Date: 05th Sep 2014

To,
The HOD [CSE],
TGPCET, Nagpur

Sub: Regarding joining of "Internship Programme" by the students of your college.

Respected Sir,

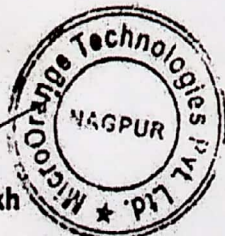
Reference (Ref.No: TGPCET/2014-15/3329) to the request for Internship & to work on live Projects in our company The training will be on Web Based Technologies (Programming in PHP, JavaScript, CSS and MySQL Database).

Following students have joined the "Internship Training Programme" from 18/08/2014 to 03/11/2014.

1. Manoj Kolte
2. Diksha Mankar
3. Valshali Pawar
4. Kalyani Sawarkar

Regards,


Idris Shelkh



MicroOrange Technologies Pvt. Ltd.



TULSIRAMJI GAIKWAD-PATIL
College of Engineering & Technology
Mohgaon, Wardha Road, Nagpur - 441 108
(Approved by AICTE, Recognised by Govt. of Maharashtra, Affiliated to RTM Nagpur University, Nagpur)

“Industrial Training Report on JAVA”

*This Industrial Case Study report is submitted to
Rashtrasant Tukdoji Maharaj Nagpur University
in partial fulfillment of the requirement
for the award of the degree*

of

Bachelor of Engineering in Computer Science & Engineering

By

Ms. Diksha Mankar

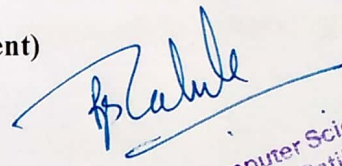


**COMPUTER SCIENCE & ENGINEERING
DEPARTMENT
SESSION 2014-15**

CERTIFICATE OF APPROVAL

This is to certify that the Industrial Case Study entitled '*The inventory Management of window*' carried out by **Diksha Mankar** of the Final year Computer Science and Engineering, during the academic year 2014-2015, in partial fulfillment of the requirement for the award of the degree of **Bachelor of Engineering in computer science and Engineering** offered by the **Rashtrasant Tukdoji Maharaj Nagpur University**.

Mr. Idris Sheikh (Industry Mentor Name)
Prof. Roshani Talmale (HOD of CSE Department)


Head of Dept. (Computer Science & Engg)
Tulsiramji Gaikwad-Patil College of
Engineering and Technology, Nagpur

Date: 10/11/2014

Place: Nagpur

DECLARATION

I certify that,

- a. The work contained in this Industrial Case Study has been done by me under the guidance of my supervisors.
- b. The work has not been submitted to any other Institute for any degree or diploma.
- c. I have followed the guidelines provided by the Institute in preparing the Industrial Case Study report.
- d. I have conformed to the norms and guidelines given in the Ethical Code of Conduct of the Institute.
- e. Whenever I have used materials (data, theoretical analysis, figures, and text) from other sources, I have given due credit to them by citing them in the text of the report and giving their details in the references. Further, I have taken permission from the copyright owners of the sources, whenever necessary.



Diksha Mankar

ACKNOWLEDGEMENT

We would like to express my deep sense of gratitude to all engineers for giving me an opportunity to do training at **MicroOrange Technologies, Nagpur.**

We got the good knowledge of trouble shooting of hardware, networking related problems and connecting local area networking. We feel very lucky to undergo training in such organizing. They have shown us right path that we could follow in the future to reach maximum possible heights in my life.

Finally, we like to thanks all staff member of Web Analysis Computer for their very good support during my training.

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ABSTRACT

It is quite interesting to know the development of Java technology, which is widely accepted in the area of networked/distributed computing. Java evolved from a project developing language for a programming consumer electronic devices at Sun Microsystems, USA.

Internet is the network of networks between different types of computers located at different places to transmit information. Information can reach to any place in the world quickly at a cheaper rate through the Internet. Thus, the Internet has made the world a global village for information exchange. The emerging infrastructure of electronic devices and interconnected computer networks create an environment that presents new challenges to software industries for this emerging computing environment. Java process to be a well – suited programming language. It is found suitable for networked environments involving a great variety of computer and devices.

ABBREVIATION

There are literally thousands of computer Abbreviations out there. Many are concerned with the technical aspects of the computer while other deal with personal communication. Following are more common ones that you may have but do not know exactly what they mean.

Following are some abbreviation which are used in java:

- 1) **GPL:** General Public License
- 2) **RAM :**Random Access Memory
- 3) **JDK :**Java Development kit
- 4) **JVM :**Java Virtual Machine
- 5) **ANSI :**American National Standard Institute
- 6) **JRE:** Java Runtime Environment

- 7) **Java Standard Edition (JSE)** – This version is the basic platform for Java. The course will focus on this edition.

- 8) **Java Enterprise Edition (JEE)** – This edition is mainly for developing and running distributed multitier architecture Java applications, based largely on modular software components running on an application server. We will not be covering this version in the course.

- 9) **Java Micro Edition (JME)** – This edition is primarily for developing programs to run on consumer appliances, such as PDAs and cell phones.

INTRODUCTION TO JAVA

Java programming language was originally developed by Sun Microsystems which was initiated by James Gosling and released in 1995 as core component of Sun Microsystems' Java platform (Java 1.0 [J2SE]).

Java is an object-oriented programming language which evolved from C++. It is also a high-level programming language. The latest release of the Java Standard Edition is Java SE 8. With the advancement of Java and its widespread popularity, multiple configurations were built to suit various types of platforms. Java is -

- **Object Oriented:** In Java, everything is an Object. Java can be easily extended since it is based on the Object model.
- **Platform Independent:** Unlike many other programming languages including C and C++, when Java is compiled, it is not compiled into platform specific machine, rather into platform independent byte code. This byte code is distributed over the web and interpreted by the Virtual Machine (JVM) on whichever platform it is being run on.
- **Simple:** Java is designed to be easy to learn. If you understand the basic concept of OOP Java, it would be easy to master.
- **Secure:** With Java's secure feature it enables to develop virus-free, tamper-free system. Authentication techniques are based on public-key encryption.
- **Architecture-neutral:** Java compiler generates an architecture-neutral object file format, which makes the compiled code executable on many processors, with the presence of Java runtime system.
- **Portable:** Being architecture-neutral and having no implementation dependent aspects of the specification makes Java portable. Compiler in Java is written in ANSI C with a clean portability boundary, which is a POSIX subset.
- **Robust:** Java makes an effort to eliminate error prone situations by emphasizing mainly on compile time error checking and runtime checking.
- **Multithreaded:** With Java's multithreaded feature it is possible to write programs that can perform many tasks simultaneously. This design feature allows the developers to construct interactive applications that can run smoothly.

1.1 Feature of Java

1. According to Sun, Java is defined as a simple, object-oriented, distributed, interpreted, robust, secure, architecture –neutral, portable, high performance, multithreaded, and dynamic programming language and platform.
2. Java is simple because the syntax of well-known languages such as C and C++ are used with modifications meant for simplification and improvement. It is easy to read and write Java code if the reader is familiar with C/C++.
3. Almost everything in Java is centered on creating objects, manipulating the objects and making objects work together. Only the primitive operations and data types are at the sub-object level. Hence Java is an object-oriented programming language.
4. An application can be distributed in many systems which are connected together. Since networking capability is incorporated in Java, the data/file can be sent across many systems to run the application.
5. Java is robust because it is more reliable. It ensures the reliability by providing early checking for possible errors. It eliminates error-prone constructs such as pointer.

1.2. Characteristics of JAVA

Java has many characteristics that have contributed to its popularity:

- **Platform independence** - Many languages are compatible with only one platform. Java was specifically designed so that it would run on any computer, regardless if it was running Windows, Linux, Mac, Unix or any of the other operating systems.
- **Simple and easy to use** - Java's creators tried to design it so code could be written efficiently and easily.
- **Multi-functional** - Java can produce many applications from command-line programs to applets to Swing windows (basically, sophisticated graphical user interfaces).

1.3. Tools will need for JAVA

For performing the examples or program of java, we will need a Pentium 200-MHz computer with a minimum of 64 MB of RAM (128 MB of RAM recommended).

You will also need the following software:

- Linux 7.1 or Windows xp/7/8 operating system
- Java JDK 8
- Microsoft Notepad or any other text editor

Chapter-2

THE JAVA PLATFORM

One thing that distinguished Java from some other languages is its ability to run the same compiled code across multiple operating systems. In other languages, the source code (code that is written by the programmer), is compiled by a compiler into an executable file. This file is in machine language, and is intended for a single operating system/processor combination, so the programmer would have to re-compile the program separately for each new operating system/processor combination. Java is different in that it does not compile the code directly into machine language code. Compilation creates bytecode out of the source code. Bytecode generally looks something like this:

```
a7 f4 73 5a 1b 92 7d
```

When the code is run by the user, it is processed by something called the Java Virtual Machine(JVM). The JVM is essentially an interpreter for the bytecode. It goes through the bytecode and runs it. There are different versions of the JVM that are compatible with each OS and can run the same code. There is virtually no difference for the end-user, but this makes it a lot easier for programmers doing software development.

2.1.Java and Open Source:-

○In 2006 Sun started to make Java available under the GNU General Public License(GPL). Oracle continues this project called OpenJDK.

2.2.Java Virtual machine :-

- The Java virtual machine (JVM) is a software implementation of a computer that executes programs like a real machine.
- The Java virtual machine is written specifically for a specific operating system, e.g. for Linux a special implementation is required as well as for Windows.
- Java programs are compiled by the Java compiler into bytecode. The Java virtual machine interprets this bytecode and executes the Java program.

2.3.Java Runtime Environment vs Java Development

Kit:-

- A Java distribution comes typically in two flavors, the Java Runtime Environment(JRE) and the Java Development Kit(JDK).
- The Java runtime environment (JRE) consists of the JVM and the Java class libraries and contains the necessary functionality to start Java programs.
- The JDK contains in addition the development tools necessary to create Java programs. The JDK consists therefore of a Java compiler, the Java virtual machine, and the Java class libraries.

Chapter-3

WRITE, COMPILE AND RUN A JAVA PROGRAM

When programmers create software programs, they first write the program in source code, which is written in a specific programming language, such as CorJava. These source code files are saved in a text-based, human-readable format, which can be opened and edited by programmers. However, the source code cannot be run directly by the computer. In order for the code to be recognized by the computer's CPU, it must be converted from source code (a high-level language) into machine code (a low-level language). This process is referred to as "compiling" the code.

3.1. Writing a Java Hello World Program

Let us look at a simple code that would print the words Hello World.

```
public class MyFirstJavaProgram
{
    /* This is my first java program.
    * This will print 'Hello World' as the output
    */
    public static void main(String[] args)
    {
        System.out.println("Hello World");// prints Hello World
    }
}
```

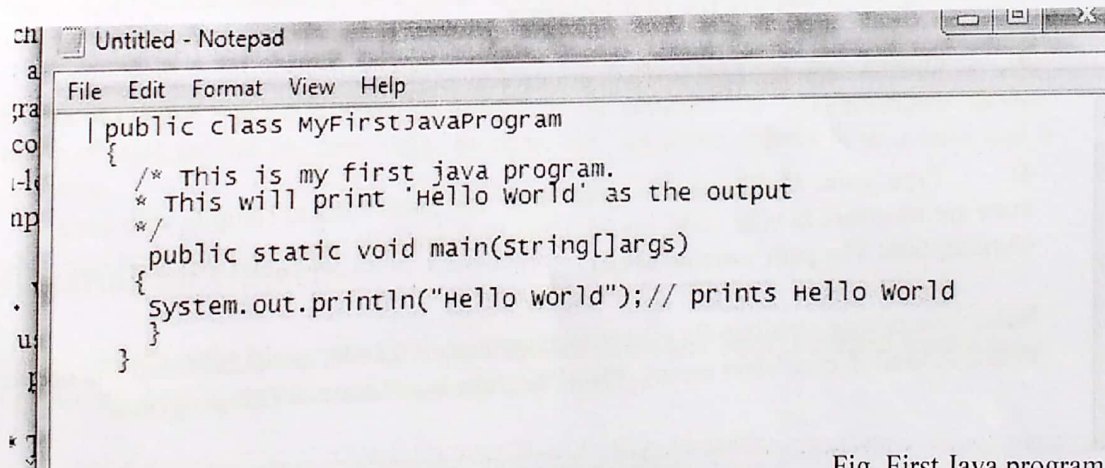


Fig. First Java program

Save the file as `MyFirstJavaProgram.java` (note that the extension is `.java`) under a directory, let's say, `C:\Java`.

Every Java program starts from the main() method. This program simply prints "Hello world" to screen.

3.2. Steps to Compile and Run First Java program

Let's look at how to save the file, compile and run the program. Please follow the steps given below:

- 1) Open Notepad from Start menu by selecting Programs > Accessories > Notepad and add the code as above.
- 2) Save the file as **FirstProgram.java** make sure to select file type as all files while saving the file in our working folder **C:\workspace**

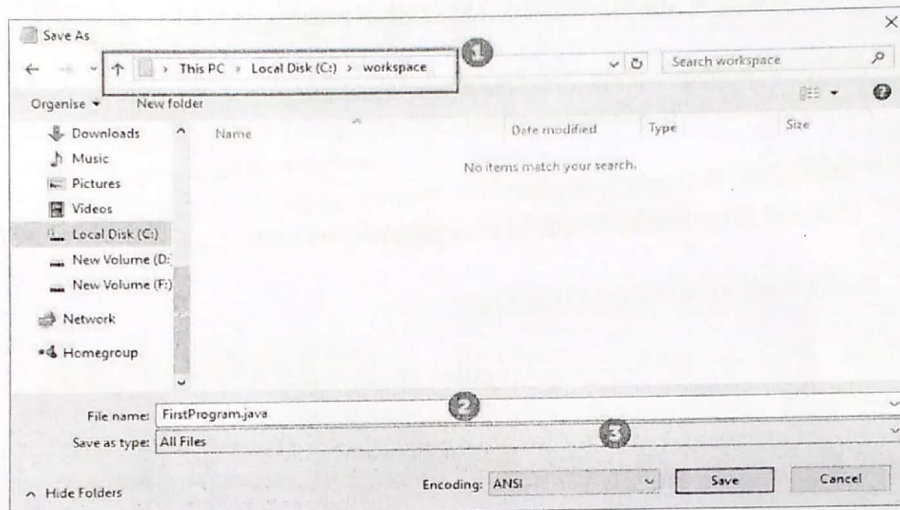


Fig . How to Save the first Program

- 3) Open a command prompt window and go to the directory where you saved the class. Assume it's C:\.
- 4) Type 'javac MyFirstJavaProgram.java' and press enter to compile your code. If there are no errors in your code, the command prompt will take you to the next line (Assumption: The path variable is set).

Note: Java is case sensitive Programming language. All code, commands, and file names should be used in consistent casing. **FirstProgram** is not same as **firstprogram**.

Chapter-4 OBJECT AND CLASSES IN JAVA

Java is an Object-Oriented Language. As a language that has the Object-Oriented feature, Java supports the following fundamental concepts:

- Polymorphism
- Inheritance
- Encapsulation
- Abstraction
- Classes
- Objects
- Instance
- Method
- Message Parsing

We will look into the concepts - Classes and Objects

- **Object** - Objects have states and behaviors. Example: A dog has states - color, name, breed as well as behaviors – wagging the tail, barking, eating. An object is an instance of a class.
- **Class** - A class can be defined as a template/blueprint that describes the behavior/state that the object of its type support .

4.1. Objects in Java

Def.: An object is an instance of a class. The object is the real element which has data and can perform actions. Each object is created based on the class definition.

Let us now look deep into what are objects. If we consider the real-world, we can find many objects around us, cars, dogs, humans, etc. All these objects have a state and a behavior.

Creating an Object:-

A class provides the blueprints for objects. So basically, an object is created from a class. In Java, the new keyword is used to create new objects.

There are three steps when creating an object from a class:

- **Declaration:** A variable declaration with a variable name with an object type.
- **Instantiation:** The 'new' keyword is used to create the object.
- **Initialization:** The 'new' keyword is followed by a call to a constructor. This call initializes the new object.

Following is an example of creating an object:-

```
public
class Puppy
{

public Puppy(String name)
{

// This constructor has one parameter, name.

System.out.println("Passed Name is : " + name );
}
public static void main(String []args)
{

// Following statement would create an object myPuppy Puppy
    myPuppy = new Puppy( "tommy" );

}

}
```

If we compile and run the above program, then it will produce the following result:

Passed Name is : tommy

4.2. Classes In Java

Def.: Template that describes the data and behavior associated with an instance of that class. In Java source code a class is defined by the class keyword and must start with a capital letter. The body of a class is surrounded by {}.

```
package test;
class MyClass
{
    .....
}
```

The data associated with a class is stored in variables and the behavior associated to a class or object is implemented with methods.

A class is contained in a Java source file with the same name as the class plus the .java extension.

A class is a blueprint from which individual objects are created.


```
// This constructor has one parameter, name.  
}  
}
```

4.3. Constructor in Java

A constructor initializes an object when it is created. It has the same name as its class and is syntactically similar to a method. However, constructors have no explicit return type.

Typically, you will use a constructor to give initial values to the instance variables defined by the class, or to perform any other startup procedures required to create a fully formed object.

All classes have constructors, whether you define one or not, because Java automatically provides a default constructor that initializes all member variables to zero. However, once you define your own constructor, the default constructor is no longer used.

Example

Here is a simple example that uses a constructor without parameters:

```
// A simple constructor.  
class MyClass {  
    int x;  
    // Following is the constructor  
    MyClass() { x  
        = 10;  
    }  
}
```

You will have to call constructor to initialize objects as follows:

```
public class ConsDemo  
{  
  
    public static void main(String args[])  
    {  
        MyClass t1 = new MyClass();  
        MyClass t2 = new MyClass();  
        System.out.println(t1.x + "" + t2.x);  
    }  
}
```

Parameterized Constructor

Following is a sample of a class:-

```
public class Dog
{
    String breed;
    int age;
    String color;
    void barking(){
    }
    void hungry(){
    }
    void sleeping(){
    }
}
```

A class can contain any of the following variable types:-

- **Local variables:** Variables defined inside methods, constructors or blocks are called local variables. The variable will be declared and initialized within the method and the variable will be destroyed when the method has completed.
- **Instance variables:** Instance variables are variables within a class but outside any method. These variables are initialized when the class is instantiated. Instance variables can be accessed from inside any method, constructor or blocks of that particular class.
- **Class variables:** Class variables are variables declared within a class, outside any method, with the static keyword .

A class can have any number of methods to access the value of various kinds of methods. In the above example, barking(), hungry() and sleeping() are methods.

Constructors

When discussing about classes, one of the most important sub topic would be constructors. Every class has a constructor. If we do not explicitly write a constructor for a class, the Java compiler builds a default constructor for that class.

Each time a new object is created, at least one constructor will be invoked. The main rule of constructors is that they should have the same name as the class. A class can have more than one constructor.

Following is an example of a constructor:

```
public class Puppy{

    public Puppy(){
    }
    public Puppy(String name){
```


Most often, you will need a constructor that accepts one or more parameters. Parameters are added to a constructor in the same way that they are added to a method, just declare them inside the parentheses after the constructor's name.

Example

Here is a simple example that uses a constructor with a parameter:

```
// A simple constructor. class
MyClass
{
int x;
// Following is the constructor
MyClass(int i) {
x = i;
}
}
```

You will need to call a constructor to initialize objects as follows:

```
public class ConsDemo {

public static void main(String args[]) {
MyClass t1 = new MyClass( 10 );
MyClass t2 = new MyClass( 20 );
System.out.println(t1.x + "" + t2.x);
}
}
```

4.4. Packages in Java

Java groups classes into functional packages.

Packages are typically used to group classes into logical units. For example all graphical views of an application might be placed in the same package called `com.vogella.webapplication.views`.

It is common practice to use the reverse domain name of the company as top level package.

For example the company might own the domain, `vogella.com` and in this example the Java packages of this company starts with `com.vogella`.

Other main reason for the usage of packages is to avoid name collisions of classes. A name collision occurs if two programmers give the same fully qualified name to a class. The fully qualified name of a class in Java consists out of the package name followed by a dot (.) and the class name.

Chapter-5

VARIABLE TYPES IN JAVA

A variable provides us with named storage that our programs can manipulate. Each variable in Java has a specific type, which determines the size and layout of the variable's memory; the range of values that can be stored within that memory; and the set of operations that can be applied to the variable.

Following is the basic form of a variable declaration:-

data type variable [= value][, variable [= value] ...] ;

Here *data type* is one of Java's datatypes and *variable* is the name of the variable. To declare more than one variable of the specified type, you can use a comma-separated list.

Following are valid examples of variable declaration and initialization in Java:

```
int a, b, c;           // Declares three ints, a, b, and c.
int a = 10, b = 10;    // Example of initialization byte B
= 22;                 // initializes a byte type variable B. double
pi = 3.14159;          // declares and assigns a value of PI.
char a = 'a';          // the char variable a is initialized with value 'a'
```

There are three kinds of variables in Java:

- Local variables
- Instance variables
- Class/Static variables

5.1.Local Variables

- Local variables are declared in methods, constructors, or blocks.
- Local variables are created when the method, constructor or block is entered and the variable will be destroyed once it exits the method, constructor, or block.
- Access modifiers cannot be used for local variables.
- Local variables are visible only within the declared method, constructor, or block.
- Local variables are implemented at stack level internally.
- There is no default value for local variables, so local variables should be declared and an initial value should be assigned before the first use.

Example :

Here, age is a local variable. This is defined inside pupAge() method and its scope is limited to only this method.

```
public class Test
{
    public void pupAge()
    {
        int age = 0;
        age = age + 7;
        System.out.println("Puppy age is : " + age);
    }
    public static void main(String args[])
    {
        Test test = new Test();
        test.pupAge();
    }
}
```

Following example uses age without initializing it, so it would give an error at the time of compilation.

```
public class Test
{
    public void pupAge()
    {
        int age;
        age = age + 7;
        System.out.println("Puppy age is : " + age);
    }
    public static void main(String args[])
    {
        Test test = new Test();
        test.pupAge();
    }
}
```

5.2. Instance Variables

- Instance variables are declared in a class, but outside a method, constructor or any block.
- When a space is allocated for an object in the heap, a slot for each instance variable value is created.
- Instance variables are created when an object is created with the use of the keyword 'new' and destroyed when the object is destroyed.

- Instance variables hold values that must be referenced by more than one method, constructor or block, or essential parts of an object's state that must be present throughout the class.
- Instance variables can be declared in class level before or after us.
- Instance variables can be accessed directly by calling the variable name inside the class. However, within static methods (when instance variables are given accessibility), they should be called using the fully qualified name . Object Reference Variable Name.

Example

```
import java.io.*;

public class Employee
{
    // this instance variable is visible for any child class.
    public String name;

    // salary variable is visible in Employee class only. private
    double salary;

    // The name variable is assigned in the constructor.

    public Employee (String empName)
    {
        name = empName;
    }
    // The salary variable is assigned a value.

    public void setSalary(double empSal) {
        salary = empSal;
    }
    // This method prints the employee details. public
    void printEmp()
    {
        System.out.println("name :" + name );
        System.out.println("salary :" + salary);
    }
    public static void main(String args[])
    {
        Employee empOne = new Employee("Ransika");
        empOne.setSalary(1000); empOne.printEmp();
    }
}
```


5.3. Class and static variable

- Class variables also known as static variables are declared with the *static* keyword in a class, but outside a method, constructor or a block.
- There would only be one copy of each class variable per class, regardless of how many objects are created from it.
- Static variables are rarely used other than being declared as constants. Constants are variables that are declared as *public/private*, *final*, and *static*. Constant variables never change from their initial value.
- When declaring class variables as *public static final*, then variable names (constants) are all in upper case. If the static variables are not *public* and *final*, the naming syntax is the same as instance and local variables.

Example

```
import java.io.*;

public class Employee
{
    // salary variable is a private static variable private
    static double salary;

    // DEPARTMENT is a constant
    public static final String DEPARTMENT = "Development ";

    public static void main(String args[])
    {

        salary = 1000;
        System.out.println(DEPARTMENT + "average salary:" + salary); }
    }
```

This will produce the following result:

Development average salary:1000

Chapter-6

BASIC DATATYPE OF JAVA

Variables are nothing but reserved memory locations to store values. This means that when you create a variable you reserve some space in the memory.

Based on the data type of a variable, the operating system allocates memory and decides what can be stored in the reserved memory. Therefore, by assigning different datatypes to variables, you can store integers, decimals, or characters in these variables.

There are two data types available in Java:

- Primitive Datatypes
- Reference/Object Datatypes

6.1.Primitive Datatypes

There are eight primitive datatypes supported by Java. Primitive datatypes are predefined by the language and named by a keyword. Let us now look into the eight primitive data types in detail.

Byte:

- Byte data type is an 8-bit signed two's complement integer
- Minimum value is -128 (-2^7)
- Maximum value is 127 (inclusive) ($2^7 - 1$)
- Default value is 0
- Byte datatype is used to save space in large arrays, mainly in place of integers, since a byte is four times smaller than an integer
- Example: byte a = 100 , byte b = -50

Short:

- Short datatype is a 16-bit signed two's complement integer
- Minimum value is -32,768 (-2^{15})
- Maximum value is 32,767 (inclusive) ($2^{15} - 1$)
- Short datatype can also be used to save memory as byte data type. A short is 2 times smaller than an integer

- Default value is 0

- Example: short s = 10000, short r = -20000

int:

- Int datatype is a 32-bit signed two's complement integer

- Minimum value is - 2,147,483,648 (-2^{31})

- Maximum value is 2,147,483,647(inclusive) ($2^{31} - 1$)

- Integer is generally used as the default data type for integral values unless there is a concern about memory.

- The default value is 0

- Example: int a = 100000, int b = -200000

long:

- Long datatype is a 64-bit signed two's complement integer

- Minimum value is -9,223,372,036,854,775,808 (-2^{63})

- Maximum value is 9,223,372,036,854,775,807 (inclusive) ($2^{63} - 1$)

- This type is used when a wider range than int is needed

- Default value is 0L

- Example: long a = 100000L, long b = -200000L

float:

- Float datatype is a single-precision 32-bit IEEE 754 floating point

- Float is mainly used to save memory in large arrays of floating point numbers

- Default value is 0.0f

- Float datatype is never used for precise values such as currency

- Example: float f1 = 234.5f

double:

- double datatype is a double-precision 64-bit IEEE 754 floating point

- This datatype is generally used as the default data type for decimal values, generally the default choice

- Double datatype should never be used for precise values such as currency
- Default value is 0.0d
- Example: double d1 = 123.4

boolean:

- boolean datatype represents one bit of information
- There are only two possible values: true and false
- This datatype is used for simple flags that track true/false conditions
- Default value is false
- Example: Boolean one=true

char:

- char datatype is a single 16-bit Unicode character
- Minimum value is '\u0000' (or 0)
- Maximum value is '\uffff' (or 65,535 inclusive)
- Char datatype is used to store any character
- Example: char letterA ='A'

6.2.Reference Datatypes

- Reference variables are created using defined constructors of the classes. They are used to access objects. These variables are declared to be of a specific type that cannot be changed. For example, Employee, Puppy, etc.
- Class objects and various type of array variables come under reference datatype.
- Default value of any reference variable is null.
- A reference variable can be used to refer any object of the declared type or any compatible type.
- Example: Animal animal = new Animal("giraffe");

6.3.Java Literals

- A literal is a source code representation of a fixed value. They are represented directly in the code without any computation.
- Literals can be assigned to any primitive type variable. For example:
byte a = 68;
char a = 'A'
- byte, int, long, and short can be expressed in decimal(base 10), hexadecimal(base 16) or octal(base 8) number systems as well.
- Prefix 0 is used to indicate octal, and prefix 0x indicates hexadecimal when using these number systems for literals. For example:
int decimal = 100; int octal
= 0144; inhexa =
0x64;
- String literals in Java are specified like they are in most other languages by enclosing a sequence of characters between a pair of double quotes. Examples of string literals are:
"Hello World"
"two\nlines"
"\\"This is in quotes\\""
- String and char types of literals can contain any Unicode characters. For example:
char a = '\u0001'; String
a = "\u0001";

Chapter-7

BASIC OPERATORS IN JAVA

Java provides a rich set of operators to manipulate variables. We can divide all the Java operators into the following groups:

- Arithmetic Operators
- Relational Operators
- Bitwise Operators
- Logical Operators
- Assignment Operators
- Misc Operators

7.1. The Arithmetic Operators

Arithmetic operators are used in mathematical expressions in the same way that they are used in algebra. The following table lists the arithmetic operators:

Assume integer variable A holds 10 and variable B holds 20, then:

Sr.No.	Operator and Example
1.	+ (Addition) Adds values on either side of the operator Example: A + B will give 30
2.	- (Subtraction) Subtracts right-hand operand from left-hand operand Example: A - B will give -10
3.	* (Multiplication) Multiplies values on either side of the operator Example: A * B will give 200
4.	/ (Division) Divides left-hand operand by right-hand operand Example: B / A will give 2
5.	% (Modulus) Divides left-hand operand by right-hand operand and returns remainder Example: B % A will give 0
6.	++ (Increment) Increases the value of operand by 1 Example: B++ gives 21

7.2. The Relational Operators

There are following relational operators supported by Java language. Assume variable A holds 10 and variable B holds 20, then:

Sr.No.	Operators and Description
--------	---------------------------

1.	== (equal to) Checks if the values of two operands are equal or not, if yes then condition becomes true. Example: (A == B) is not true.
2.	!= (not equal to) Checks if the values of two operands are equal or not, if values are not equal then condition becomes true. Example: (A != B) is true.
3.	> (greater than) Checks if the value of left operand is greater than the value of right operand, if yes then condition becomes true. Example: (A > B) is not true
4.	< (less than) Checks if the value of left operand is less than the value of right operand, if yes then condition becomes true. Example: (A < B) is true
5.	>= (greater than or equal to) Checks if the value of left operand is greater than or equal to the value of right operand, if yes then condition becomes true. Example: (A >= B) is not true
6.	<= (less than or equal to) Checks if the value of left operand is less than or equal to the value of right operand, if yes then condition becomes true. Example: (A <= B) is true.

7.3.The Bitwise Operators

Java defines several bitwise operators, which can be applied to the integer types, long, int, short, char, and byte.

Bitwise operator works on bits and performs bit-by-bit operation. Assume if a = 60 and b = 13; now in binary format they will be as follows:

a = 0011 1100 b
= 0000 1101

a&b = 0000 1100
a|b = 0011 1101 a^b
= 0011 0001
~a = 1100 0011

The following table lists the bitwise operators:

Assume integer variable A holds 60 and variable B holds 13 then:

Sr.No.	Operators and Description
1.	& (bitwise and) Binary AND Operator copies a bit to the result if it exists in both operands. Example: (A & B) will give 12 which is 0000 1100

2.	 (bitwise or) Binary OR Operator copies a bit if it exists in either operand. Example: (A B) will give 61 which is 0011 1101
3.	^ (bitwise XOR) Binary XOR Operator copies the bit if it is set in one operand but not both. Example: (A ^ B) will give 49 which is 0011 0001
4.	~ (bitwise compliment) Binary Ones Complement Operator is unary and has the effect of 'flipping' bits. Example: (~A) will give -61 which is 1100 0011 in 2's complement form due to a signed binary number
5.	<< (left shift) Binary Left Shift Operator. The left operands value is moved left by the number of bits specified by the right operand. Example: A << 2 will give 240 which is 1111 0000
6.	>> (right shift) Binary Right Shift Operator. The left operands value is moved right by the number of bits specified by the right operand. Example: A >> 2 will give 15 which is 1111
7.	>>> (zero fill right shift) Shift right zero fill operator. The left operands value is moved right by the number of bits specified by the right operand and shifted values are filled up with zeros. Example: A >>>2 will give 15 which is 0000 1111

Ref No. MOT/TRN/1415/08

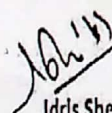
Date: 08/11/2014

To Whom It May Concern

This is to certify that Ms. Diksha Mankar has successfully completed her internship as Junior Software Developer for duration of 2.5 months from 18th August 2014 to 03rd November 2014.

During internship we found her sincere hardworking, technically sound and result oriented. Diksha Mankar has a friendly, outgoing personality and works well as a part of a team. We take this opportunity to thank her for contribution and wish her success in her future endeavours.

Regards,


Idris Sheikh



MicroOrange Technologies Pvt. Ltd.

Ref No. MOT/TRN/1415/08/01

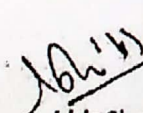
Date: 08/11/2014

To Whom It May Concern

This is to certify that Ms. Vaishali Pawar has successfully completed her internship as Junior Software Developer for duration of 2.5 months from 18th August 2014 to 03rd November 2014.

During internship we found her sincere hardworking, technically sound and result oriented. Diksha Mankar has a friendly, outgoing personality and works well as a part of a team. We take this opportunity to thank her for contribution and wish her success in her future endeavours.

Regards,


Idris Shelkh



MicroOrange Technologies Pvt. Ltd.

Ref No. MOT/TRN/1415/08/02

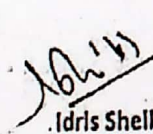
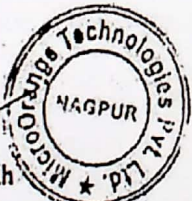
Date: 08/11/2014

To Whom It May Concern

This is to certify that Ms. Kalyani Sawarkar has successfully completed her internship as Junior Software Developer for duration of 2.5 months from 18th August 2014 to 03rd November 2014.

During internship we found her sincere hardworking, technically sound and result oriented. Diksha Mankar has a friendly, outgoing personality and works well as a part of a team. We take this opportunity to thank her for contribution and wish her success in her future endeavours.

Regards,


Idris Shelkh

MicroOrange Technologies Pvt. Ltd.

Ref No. MOT/TRN/1415/08/03

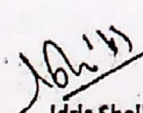
Date: 08/11/2014

To Whom It May Concern

This is to certify that Mr. Manoj Kolte has successfully completed her internship as Junior Software Developer for duration of 2.5 months from 18th August 2014 to 03rd November 2014.

During internship we found her sincere hardworking, technically sound and result oriented. Diksha Mankar has a friendly, outgoing personality and works well as a part of a team. We take this opportunity to thank her for contribution and wish her success in her future endeavours.

Regards,


Idris Shelkh



MicroOrange Technologies Pvt. Ltd.



Vidarbha Bahu-uddeshiya Shikshan Sanstha's

TULSIRAMJI GAIKWAD-PATIL College of Engineering & Technology

Mohgaon, Wardha Road, Nagpur - 441 108 Tel: 07103-645410 Mob: 09922966173
Approved by AICTE, New Delhi, Govt. of Maharashtra & Affiliated to RTM Nagpur University
E-mail: principal@tgpceet.com Website: www.tgpceet.com
An ISO 9001:2008 Certified Institution



GAIKWAD-PATIL
GROUP OF INSTITUTIONS

Ojaswini Complex
Gayatri Nagar, IT Park Road
Nagpur - 440 022
Tel: 0712 664 8252
Fax: 0712 224 0656
E-mail: vidarbhabuss@yahoo.co.in

TGPCET/EE/2014-2015/88

Date: 2/7/2014

To,
The Manager,
MSEDCL,
Nagpur

Subject – Application for Industrial Visit of Electrical Engineering student at 33 KV, Substation, MSEDCL,
Nagpur

Respected Sir/Madam,

Warm Regards from Tulsiramji Gaikwad Patil College of Engineering and Technology (TGPCET).

TGPCET is one of the most promising and upcoming Engineering Institutions in Vidarbha region. The college is a part of Gaikwad-Patil Group of Institutions which caters to cultivating students in various fields such as Engineering, Architecture, etc. It comes under the umbrella of Rashtrasant Tukadoji Maharaj Nagpur University and is affiliated to AICTE.

As a professional education institute involved in producing engineers, it is imperative for us that our students are industry relevant and ready. As such we feel the urge for high amount of student interaction with the industrial setup. Hence, we encourage our students to maximize their industry interaction in ways such as industrial visits, case studies and projects. This helps them to get practical experience of theoretical knowledge that they acquire in their curriculum.

Our Students of final year from Electrical Engineering eager to visit. The students will be accompanied with faculty member during the duration of their study. We also hope that this can be a beginning of a long lasting, professionally satisfying and mutually beneficial relationship between our organizations.

Regards and Best wishes,



Department of EE

H. S. Mehta
HOD (EE)

HOD

Department of Electrical Engineering
Tulsiramji Gaikwad Patil College of
Engineering & Technology, Nagpur

Final result.

5messages

HR <hr@msedcl.com>

SAT, 10,JULY,2014 at 7:36 PM

To: **Radharaman Shaha**<hod.ee@tgp cet.com>

Greetings authority,

We are glad to inform you that your application for request of industrial Visit has been accepted by the organization, and you have been selected for the Industrial visit in our company.

This e-mail is regarding your Industrial Visist application as on 15/07/2014.

As you know it may be a very bustling time, we advise you to be mentally and physically equipped, and of course, you can get along with our expectations. You will get compensation from the company for the internship period thereof as discussed.



Tulsiramji Gaikwad-Patil College of Engineering & Technology

Wardha Road, Nagpur-441 108

Department of Electrical Engineering

NOTICE

Date: 13.07.2014

This is to inform all the students of the final and pre-final year students that Industrial Visit is organized at "33KV MSEDCL, Substation, Nagpur" on 15TH July 2014. All the students should attend the Visit.

Time: 12:00 pm – 2:00 pm

Venue: 33KV MSEDCL, Substation, Nagpur

H. O. D.

H.O.D – Electrical Engineering

HOD,

Electrical Engineering

**Tulsiramji Gaikwad-Patil College of
Engineering and Technology, Nagpur.**

**Tulsiramji Gaikwad-Patil College of Engineering and Technology**

Wardha Road, Nagpur-441 108

Department of Electrical Engineering

Session: 2014-15

Attendance of Industrial Visit

33 KV, Substation, MSEDCL, Nagpur

Date: 15/07/2014

Sr.No	Name of Student	Signature
1	AISHWARYA ASHOK UPARE	
2	DEEPIKA PREMLAL CHAURASIYA	
3	EKTA KAMALAKARJI MEHANDALE	
4	MANISHA LAXMAN CHAHANDE	
5	MITHILA GAJANAN KINEKAR	
6	NISHA PATLE	
7	PRIYANKA NAMDEO SAKHARKAR	
8	RAJSHREE MAROTI MOON	
9	ROSHANI KALE	
10	SANJEEVANI SURENDRA GONDANE	
11	SANYUKTA ARUN KHAMBALKAR	
12	SHUBHANGINI DEVRAM GAJBHIYE	
13	SHWETA SATISHCHANDRA DHUSIYA	
14	TEJASWINI MORESHWAR DALAL	
15	TEJASWINI SHANKARRAO CHAHARE	
16	ABHISHEK ARUN CHAUDHARI	
17	AJAY ASHOK BALKHANDE	
18	AMIT CHANDRASHEKAR MAHETKAR	
19	ANAL BALKRUSHNA BURHAN	
20	ANKUSH JADAV	
21	ANUP NIRANJAN SHENDRE	



Tulsiramji Gaikwad-Patil College of Engineering & Technology



Wardha Road, Nagpur-441 108

Department of Electrical Engineering

Report of Visit at 33KV Substation MSEDCL, Butibori, Nagpur.

Date:-15.07.2014

Aim: To conduct a mapping test on Visit to 33 KV Substation MSEDCL, Butibori, Nagpur on "15th July 2014".

Objective:

1. To give the students basic concepts of Substation.
2. To impart students about specifications and construction of 33 kv Substation.

Methodology:

1. The students are given induction about the visit. They were briefed about the objective of organizing such type of visits.
2. Students from third year of the Electrical Engineering Branch were selected for the visit.
3. Students were asked knowledge based questions on to know about the visit by searching it in the media. They were also asked to search the answer why such events are arranged by the organizing body.
4. Multiple Choice Questions based on the visit is prepared to check whether the visit was fruitful or not.

Outcome:

1. It is observed by the faculty co-ordinator that the students utilized the travel time to reach the destination in searching the details of the event and know about the history of the place.
2. Students curiously went to every project, learnt the concept of the project and also asked few questions to the projectees present with their projects.
3. The students were proud to know that our country is in the forefront to use the technology.
4. It acts as connecting link between generating Station and consumers. Power transformers are being used to change voltage level at substation. 33 kv Substation is used to step down voltage from 33 kv to 11kv and the output is connected to feeder for local utility. The primary voltage for power transformer at 3kv substation is 33 kv which is fed from secondary transmission line. The output of power transformer 11kv is given as supply to medium and large consumers especially industries.



Tulsiramji Gaikwad-Patil College of Engineering & Technology

Wardha Road, Nagpur-441 108



Department of Electrical Engineering

Mapping of Industrial Visit with PO:

This Industrial Visit helped students to learn about

- 1) Engineering Knowledge
- 2) Design/ development of solutions.
- 3) Conduct investigation of complex problems
- 4) Modern tool usage
- 5) The engineer and society
- 6) Individual and team work
- 7) Lifelong learning

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
3		3	3	2		3	2	3		2	3

Conclusion:

The industry visit concluded with Valedictory session wherein the certificates were distributed to all the participants. Mementos were also given to the Session Chairs., Asst. Engineer, 33KV Substation MSEDCL, Nagpur. One of the trainees proposed a vote of thanks to all delegates, Organizing and Technical Committees for smooth conduct and huge success of one day industrial visit at 33KV Substation MSEDCL, Nagpur. The one day industrial visit was nicely and successfully managed by a faculty member of the department.

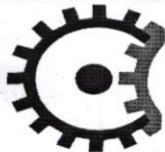


Visit at 33/11 kv MSEDCL Substation Butibori

Pandharkar

Harshvardh
HOD

Electrical Engineering
Tulsiramji Gaikwad-Patil College of
Engineering and Technology, Nagpur.



**Report of Mapping Test conducted for the Visit at 33KV Substation MSEDCL,
Butibori, Nagpur.**

Date of Test:-15.07.2014

Aim: To conduct a mapping test on Visit to 33 KV Substation MSEDCL, Butibori, Nagpur on "15th July 2014".

Objective:

1. To give the students basic concepts of Substation.
2. To impart students about specifications and construction of 33kv Substation.

Methodology:

1. The students are given induction about the visit. They were briefed about the objective of organizing such type of visits.
2. Students from third year of the Electrical Engineering Branch were selected for the visit.
3. Students were asked knowledge based questions on to know about the visit by searching it in the media. They were also asked to search the answer why such events are arranged by the organizing body.
4. Multiple Choice Questions based on the visit is prepared to check whether the visit was fruitful or not.

Outcome:

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3. The students were proud to know that our country is in the forefront to use the technology.
4. It acts as connecting link between generating Station and consumers. Power transformers are being used to change voltage level at substation. 33kv Substation is used to step down voltage from 33 kv to 11kv and the output is connected to feeder for local utility. The primary voltage for power transformer at 3kv substation is 33 kv which is fed from secondary transmission line. The output of power transformer 11kv is given as supply to medium and large consumers especially industries.



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- 6) Individual and team work
- 7) Lifelong learning

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
3		2	3	3	3			3			3

Conclusion:

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Visit at 33/11 kv MSEDCL Substation Butibori

Handwritten signature
HOD

Department of Electrical Engineering
Tulsiramji Gaikwad Patil College of
Engineering & Technology, Nagpur



Vidarbha Bahu-uddeshiya Shikshan Sanstha's

TULSIRAMJI GAIKWAD-PATIL

College of Engineering & Technology

Mohgaon, Wardha Road, Nagpur - 441 108 Tel: 07103-645410 Mob: 09922966173

Approved by AICTE, New Delhi, Govt. of Maharashtra & Affiliated to RTM Nagpur University

E-mail: principal@tgp cet.com Website: www.tgp cet.com

An ISO 9001:2008 Certified Institution

TGPCET/EE/2014-2015/29



GAIKWAD-PATIL
GROUP OF INSTITUTIONS

Ojaswini Complex
Gayatri Nagar, IT Park Road
Nagpur - 440 022

Tel: 0712 664 8252

Fax: 0712 224 0656

E-mail: vidarbhabuss@yahoo.co.in

Date: 09-02-2014

To,
The Manager,
Victrans Engineering,
MIDC, Nagpur

Subject – Application for Industrial Visit of Electrical Engineering student's at Victrans Engineering.

Respected Sir/Madam,

Warm Regards from Tulsiramji Gaikwad Patil College of Engineering and Technology (TGPCET).

TGPCET is one of the most promising and upcoming Engineering Institutions in Vidarbha region. The college is a part of Gaikwad-Patil Group of Institutions which caters to cultivating students in various fields such as Engineering, Architecture, etc. It comes under the umbrella of Rashtrasant Tukadoji Maharaj Nagpur University and is affiliated to AICTE.

As a professional education institute involved in producing engineers, it is imperative for us that our students are industry relevant and ready. As such we feel the urge for high amount of student interaction with the industrial setup. Hence, we encourage our students to maximize their industry interaction in ways such as industrial visits, case studies and projects. This helps them to get practical experience of theoretical knowledge that they acquire in their curriculum.

Our Students of final year from Electrical Engineering eager to visit. The students will be accompanied with faculty member during the duration of their study. We also hope that this can be a beginning of a long lasting, professionally satisfying and mutually beneficial relationship between our organizations.

Regards and Best wishes,



HOD
HOD (EE)

HOD
Department of Electrical Engineering
Tulsiramji Gaikwad Patil College of
Engineering & Technology, Nagpur

Department of EE



Radharaman Shaha<hod.ee@tgp cet.com>

Final result.

4 messages

HR Victrus <hr@victrus.com>

SAT, 11, Feb 2014 at 7:36 PM

To: Radharaman Shaha<hod. ee@tgp cet.com>

Greetings authority,

We are glad to inform you that your application for request of industrial Visit has been accepted by the organization, and you have been selected for the Industrial visit in our company.

This e-mail is regarding your Industrial Visist application as on 13/02/2014.

As you know it may be a very bustling time, we advise you to be mentally and physically equipped, and of course, you can get along with our expectations. You will get compensation from the company for the internship period thereof as discussed.


Tulsiramji Gaikwad-Patil College of Engineering and Technology

Wardha Road, Nagpur-441 108

Department of Electrical Engineering
Session 2014-15

Sr.No.	Name of Students	Sign
1	DEEPIKA KHAIRKAR	<i>D.Khairkar</i>
2	KAVITA SORTE	<i>Kavita</i>
3	RUCHIKA GOUR	<i>R-Gour</i>
4	SHRUTI BUTLEY	<i>SButley</i>
5	AKASH ZADE	<i>AKash</i>
6	CHETAN J. SIRPURKAR	<i>Chetan</i>
7	KULBHUSHAN TANWAR	<i>K.Tanwar</i>
8	KUMAR DEVIKAR	<i>Kevikar</i>
9	PRANAV MUNJANKAR	<i>Pranav</i>
10	PRASHANT GABHANE	<i>Prashant</i>
11	RAVI PATIL	<i>R.Patil</i>
12	RUPESHKUMAR MANDHARE	<i>R.Mandhare</i>
13	SANKET SATPUTE	<i>Ssatpute</i>
14	SATISH BISEN	<i>S.Bisen</i>
15	SHUBHAM VAIDYA	<i>Shubham</i>

H. V. B. Me
HOD, EE
Department of Electrical Engineering
Tulsiramji Gaikwad Patil College of
Engineering & Technology, Nagpur



Tulsiramji Gaikwad-Patil College of Engineering & Technology

Wardha Road, Nagpur-441 108

Department of Electrical Engineering

Report of Mapping Test conducted for the visit at Victrans Engineering, MIDC, Nagpur.

Aim: To conduct a mapping test on Visit to Victrans Engineering, MIDC, Nagpur. for understanding the transformer and its internal structure on

Objective:

1. To give the students basic concepts of transformer design.
2. To impart students about specifications and construction of transformer.

Methodology:

1. The students are given induction about the visit. They were briefed about the objective of organizing such type of visits.
2. Students from third year of the Electrical Engineering Branch were selected for the visit.
3. Students were asked knowledge based questions on to know about the visit by searching it in the media. They were also asked to search the answer why such events are arranged by the organizing body.
4. Multiple Choice Questions based on the visit is prepared to check whether the visit was fruitful or not.

Outcome:

1. It is observed by the faculty co-ordinator that the students utilized the travel time to reach the destination in searching the details of the event and know about the history of the place.
2. Students curiously went to every project, learnt the concept of the project and also asked few questions to the projectees present with their projects.
3. The students were proud to know that our country is in the forefront to use the technology.
4. The mission of High Rise Transformer is to consistently provide the highest quality of Product and satisfaction to all our valued clients. We solve our customer's challenges through innovation and imaginative thinking, design excellence and expertise, the quality of our manufacturing, cost effectiveness and timely deliveries.



Tulsiramji Gaikwad-Patil College of Engineering & Technology

Wardha Road, Nagpur-441 108

Department of Electrical Engineering

Mapping of Industrial Visit with PO:

This Industrial Visit helped students to learn about

- 1) Engineering Knowledge
- 2) Design/ development of solutions.
- 3) Conduct investigation of complex problems
- 4) Modern tool usage
- 5) The engineer and society
- 6) Individual and team work
- 7) Lifelong learning

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
3		2	3	3	3			3			3

Conclusion:

The industry visit concluded with Valedictory session wherein the feedback forms were distributed to all the participants. Mementos were also given to the Session Chairs, CEO, High Rise Transformer. Prof. Nikita Malwar proposed a vote of thanks to all delegates, Organizing and Technical Committees for smooth conduct and huge success of one day industrial visit at J P Electrical, Hingana, Nagpur. The one day industrial visit was nicely and successfully managed by an active faculty member of the department Prof. Ganesh Wakte.

H. Wakte

HOD

Department of Electrical Engineering
Tulsiramji Gaikwad Patil College of
Engineering & Technology, Nagpur



Vidarbha Bahu-uddeshiya Shikshan Sanstha's

TULSIRAMJI GAIKWAD-PATIL

College of Engineering & Technology

Mohgaon, Wardha Road, Nagpur - 441 108 Tel: 07103-203473 / 75

Approved by AICTE, DTE and Affiliated to RTM Nagpur University

E-mail: vidarbhabuss@yahoo.co.in Website: www.tgpcet.com

An ISO 9001:2008 Certified Institution



GAIKWAD-PATIL
GROUP OF INSTITUTIONS

Ojaswini Complex
Gayatri Nagar, IT Park Road
Nagpur - 440 022
Tel: 0712 664 8252
Fax: 0712 224 0656

Prof. Sharad Patil
President

Prof. Mohan Gaikwad
Secretary

Dr. G. K. Awari
Principal

(Please quote Work order No. And CODE No for all reference in all documents)

Ref. Code No.: TGPCET/Technical Training/2014/Engg./01

Dated: 07/11/2014

To,

ADCC Academy Pvt. Ltd

10/5, IT Park,

Opp. VNIT, Nagpur - 22

Subject: Work Order for Technical Training

Respected Sir,

With reference to the discussion held with you and as per your Quotation dated on November 5, 2014 with ref no. ADCC/Academy/OST/14-15/141006, we are placing herewith the order for training of software courses on the terms and conditions mentioned below in this order.

Sr. No	Name of course	Name of Faculty	No. of Candidate interested	ADCC Duration
1	ORACLE DBA	Prof. Jiwan Dahrenkar(CSE)	2	45 days@ 4 hours daily
		Prof. Abhay Rewatkar(IT)		45 days@ 4 hours daily


PRINCIPAL 7/11/14

Copy to:

1. Accounts Section.
2. Principal
3. Secretary


DIRECTOR



AWARD OF COMPLETION

Mr. Abhay Rewatkar

HAS SUCCESSFULLY COMPLETED

Oracle SQL

AS PART OF ORACLE'S WORKFORCE DEVELOPMENT PROGRAM AT

UNISOFT Technologies- ADCC Academy Pvt. Ltd. Nagpur



John L Hall

JOHN HALL
SENIOR VICE PRESIDENT
ORACLE CORPORATION

Adcc Nagpur

INSTRUCTOR NAME

2014-12-30

DATE

50241905

ENROLLMENT ID



Abhay Rewatkar <abhayrewatkar56@gmail.com>

DBMS SQL notes ADCC

2 messages


Abhay Rewatkar <abhayrewatkar56@gmail.com>

Wed, Nov 19, 2014 at 10:11 AM

To: Abhay Rewatkar <abhayrewatkar56@gmail.com>, abhay.it@thpcet.com

Check DBA PDF notes from ORACLE .

Regards:
Abhay R. Rewatkar

 **Abhay Rewatkar SQL.rar**
7682K

Mail Delivery Subsystem <mailer-daemon@googlemail.com>

Wed, Nov 19, 2014 at 10:11 AM

To: abhayrewatkar56@gmail.com

Delivery to the following recipient failed permanently:

abhay.it@thpcet.com

Technical details of permanent failure:

DNS Error: Address resolution of thpcet.com. failed: Domain name not found

----- Original message -----

DKIM-Signature: v=1; a=rsa-sha256; c=relaxed/relaxed;

d=gmail.com; s=20120113;

h=mime-version:date:message-id:subject:from:to:content-type;

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EQNg==

MIME-Version: 1.0

X-Received: by 10.224.46.131 with SMTP id j3mr23766309qaf.86.1416372065550;

Tue, 18 Nov 2014 20:41:05 -0800 (PST)

Received: by 10.140.95.55 with HTTP; Tue, 18 Nov 2014 20:41:05 -0800 (PST)

Date: Wed, 19 Nov 2014 10:11:05 +0530

Message-ID: <CA++vNvxr32Lwtam0HRDLObd91jySd9n=e8Vub6dvmK2HjrF6w@mail.gmail.com>

Subject: DBMS SQL notes ADCC

From: Abhay Rewatkar <abhayrewatkar56@gmail.com>

To: Abhay Rewatkar <abhayrewatkar56@gmail.com>, abhay.it@thpcet.com

Content-Type: multipart/mixed; boundary=001a11c2cd68d8ec9a05082ed1a2

[Quoted text hidden]



Tulsiramji Gaikwad-Patil College of Engineering and Technology

Wardha Road, Nagpur-441 108

Department of Information Technology Engineering

Application for Internship Training

To

The HoD

Department Information Technology, Nagpur

Subject: Application for the issue the permission letter for Internship Training

Company Name: IT NetworkZ Pvt. Nagar Nagpur


Applicant Name: Sreha Dabhekar

Respected Sir,

I am the students of 6th Semester Information Technology Department of Tulsiramji Gaikwad Patil College of Engineering & Technology Nagpur, request you to allow me to do internship. The duration of training is 45 days.

So kindly permit me as I have been thoroughly preparing industrial working culture under the guidance of experienced employee and gaining practical knowledge will develop my professional level with effectiveness.

Thanking You.


HoD (Info. Tech.)

Department of Information Technology Engineering

Head of Dept. (Information Technology)
Tulsiramji Gaikwad-Patil College of
Engineering & Technology, Nagpur.



Tulsiramji Gaikwad-Patil College of Engineering and Technology
Wardha Road, Nagpur-441 108

Department of Information Technology Engineering

Application for Internship Training

To
The HoD
Department Information Technology, Nagpur

Subject: Application for the issue the permission letter for Internship Training

Company Name: IT NETWORKZ NAGPUR

Applicant Name: AKSHAY BHAGAT

Respected Sir,

I am the students of VI Semester Information Technology Department of Tulsiramji Gaikwad Patil College of Engineering & Technology Nagpur, request you to allow me to do internship. The duration of training is 45 days

So kindly permit me as I have been thoroughly preparing industrial working culture under the guidance of experienced employee and gaining practical knowledge will develop my professional level with effectiveness.

Thanking You.


HoD (Info. Tech.)

Head of Dept. (Information Technology)
Tulsiramji Gaikwad-Patil College of
Engineering & Technology, Nagpur.

Department of Information Technology Engineering



Tulsiramji Gaikwad-Patil College of Engineering and Technology
Wardha Road, Nagpur-441 108

Department of Information Technology Engineering

Application for Internship Training

To

The HoD

Department Information Technology, Nagpur

Subject: Application for the issue the permission letter for Internship Training

Company Name: IT NETWORKZ pvt. Ltd. Nagpur.

Applicant Name: MR. Kshitij Limje

Respected Sir,

I am the students of 6th Semester Information Technology Department of Tulsiramji Gaikwad Patil College of Engineering & Technology Nagpur, request you to allow me to do internship. The duration of training is 45 days.

So kindly permit me as I have been thoroughly preparing industrial working culture under the guidance of experienced employee and gaining practical knowledge will develop my professional level with effectiveness.

Thanking You.

HoD (Info. Tech.)

Head of Dept. (Information Technology)
Tulsiramji Gaikwad-Patil College of
Engineering & Technology, Nagpur.

Department of Information Technology Engineering



GAIKWAD-PATIL
GROUP OF INSTITUTIONS

Dr. Mohan R. Gaikwad
Chairman, GPG

TULSIRAMJI GAIKWAD-PATIL
College of Engg. & Tech

ADHA GAIKWAD-PATIL
College of Engineering

TULSIRAMJI GAIKWAD-PATIL
College of Polytechnic

TULSIRAMJI GAIKWAD-PATIL
College of Architecture

ADHA GAIKWAD-PATIL
College of Polytechnic

SHREE SAINATH
College of Pharmacy

MOTILAL OJHA Institute of
Technology & Management

'Pro-Excellence'
Finishing School

DWASWINI
Adhyapak Vidyapeeth

SHREE SAINATH
Convent (CBSE)

GPG
Nagpur

Date:- 02/05/2014

To
HR Manager,
IT Networkz,
Laxmi Nagar, Nagpur.

Respected Sir / Madam

Warm regards from Gaikwad-Patil Group of Institutions.

Mr. Akshay Bhagat, Mr. Kshitij Limje and Miss Sneha Dabhekar are students of 3rd Year Engineering from Department of Information Technology Engineering at Tulsiramji Gaikwad-Patil College of Engineering (TGPCET)

As has been mutually agreed, they have been permitted to do their Summer Training at your esteemed organization for 30-45 days as per your feasibility.

Department of Information Technology Engineering and Training & Placement Cell of TGPCET ensure their sincere and honest behavior at your premises.

We are thankful to you for extending your kind support towards them and look forward for the same support in future.

Thanking You


Amit Tajne

Deputy Director
Corporate Affairs




Acceptance Letter

Date:15/05/2014

Dear Akshay Bhagat,

On behalf of the IT NetworkZ Pvt. Ltd Nagpur, we would like to notify you of this opportunity for an internship. On your acceptance of this offer, you can continue an internship with the company on 21st May 2014. You will not get the benefits of regular employees including health insurance, holidays or sick pay, wage leave or participation in the company's plan.

We assure you that the details of your particulars we have collected during your program should be saved in our covert privately. We appreciate your interest in our company.


Project Head
IT-NetworkZ
(Authorized Signatory)
**IT-NetworkZ
Nagpur.**




HR
IT-NetworkZ
(Authorized Signatory)

CORPORATE OFFICE
1414, Hunters Glen Dr, Plainsboro New Jersey - 08536, USA
Tel: +1-443-878-2147, Fax: +1-443-548-0904

GLOBAL DEVELOPMENT CENTER
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Tel: +91-712-6464622, Fax: +91-712- 2248422

BRANCH OFFICE
Ground Floor, Anand Palace - 11, Opp. Vasant Dada Polytechnic,
Nandanvan, Nagpur - 09, Tel : 712 - 2712012, Cell : 92256 70888



Corporate Office: 9122, Groffs Mills, Dnt 143, Owing Mills, MD 21117, USA, Tel: +1-800-873-4675, Fax: +1-800-941-2174
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Tel: +91-712-2248422, Fax: +91-712-2248422, Mobile: 9665009900, E-mail: principal@it-networkz.com

CERTIFICATION OF PROJECT COMPLETION

To Whomsoever It May Concern

Date: 10/07/2014
Place: Nagpur

This is to certify and confirm that **Sneha Dabhekar** [Trainee], student of 7th Sem Information Technology Dept., T.G.P.C.E.T., NAGPUR Maharashtra, has done Internship work in the company on "Internship Training Program" and have completed it in accordance with the approved Modules and specifications, under the guidance and supervision of **Mr. Prabuddha Sanyal, [Project Leader, IT-NetworkZ, Nagpur]**, towards the fulfillment of Academics during the period 21st May 2014 to 07th July 2014.

During his tenure, his performance was good. We wish good luck for his future endeavors.

Project Leader
IT-NetworkZ
(Authorized Signatory)



Technical Director
IT-NetworkZ
(Authorized Signatory)



Corporate Office
Regional Office
Tel

9722, Groffs Mills, Dr# 143, Owing Mills, MD 21117, USA, Tel : 1-866-579-0575, Fax : 1-800-948-2974
P-5/A, Akanksha Appt., 102/202, RPTS Road, Laxmi Nagar, Nagpur-440022, INDIA
+91-712-2248422, Fax : +91-712-2248422, Mobile : 9665999900 E-mail : contact@it-networkz.com

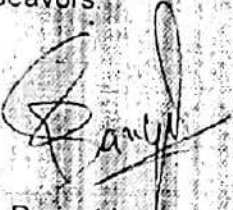
CERTIFICATION OF PROJECT COMPLETION

To Whomsoever It May Concern

Date: 10/07/2014
Place: Nagpur

This is to certify and confirm that **Rajkumar Dorkhande** [Trainee], student of 7th Sem Information Technology, Dept. T.G.P.C.E.T., NAGPUR, Maharashtra, has done Internship work in the company on "Internship Training Program" and have completed it in accordance with the approved Modules and specifications, under the guidance and supervision of **Mr. Prabuddha Sanyal**, [Project Leader, IT-NetworkZ, Nagpur], towards the fulfillment of Academics during the period 21st May 2014 to 07th July 2014.

During his tenure, his performance was good. We wish good luck for his future endeavors.


Project Leader
IT-NetworkZ
(Authorized Signatory)




Technical Director
IT-NetworkZ
(Authorized Signatory)

CERTIFICATION OF PROJECT COMPLETION

To Whomsoever It May Concern

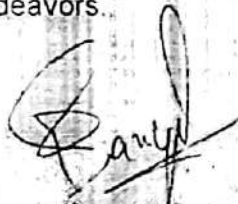
Date: 10/07/2014

Place: Nagpur


This is to certify and confirm that **Akshay J. Bhagat [Trainee]** student of 7th Sem. Information Technology Dept., T.G.P.C.E.T., NAGPUR, Maharashtra, has done Internship work for the company on "Internship Training Program" and have completed it in accordance with the approved Modules and specifications, under the guidance of

Mr. Prabuddha Sanyal, [Project Leader, IT-NetworkZ, Nagpur], towards the fulfillment of Academics during the period 21st May 2014 to 07th July 2014.

During his tenure, his performance was good. We wish good luck for his future endeavors.


Project Leader
IT-NetworkZ
(Authorized Signatory)




Technical Director
IT-NetworkZ
(Authorized Signatory)



IT-NetzworkZ
LET'S GET INTERNETWORKED

Corporate Office
Regional Office
Tel

9722, Groff's Mills, Dr# 143, Owing Mills, MD 21117, USA, Tel.: 1-866-579-0575, Fax: 1-800-848-2974
P-5/A, Akanksha Appt., 102/202, RPTS Road, Laxmi Nagar, Nagpur-440022, INDIA.
+91-712-2248422, Fax: +91-712-2248422, Mobile: 9665999900 E-mail: contact@it-networkz.com

CERTIFICATION OF PROJECT COMPLETION

To Whomsoever It May Concern

Date: 10/07/2014

Place: Nagpur

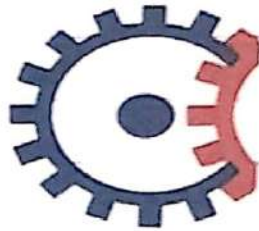
This is to certify and confirm that **Suheli Pathade** [Trainee], student of 7th Sem. Information Technology Dept., T.G.P.C.E.T., NAGPUR, Maharashtra, has done Internship work in the company on "Internship Training Program" and have completed it in accordance with the approved Modules and specifications, under the guidance and supervision of **Mr. Prabuddha Sanyal**, [Project Leader, IT-NetzworkZ, Nagpur], towards the fulfillment of Academics during the period 21st May 2014 to 07th July 2014.

During his tenure, his performance was good. We wish good luck for his future endeavors.

Project Leader
IT-NetzworkZ
(Authorized Signatory)



Technical Director
IT-NetzworkZ
(Authorized Signatory)



**TULSIRAMJI GAIKWAD-PATIL COLLEGE OF ENGINEERING
AND TECHNOLOGY
DEPARTMENT OF INFORMATION TECHNOLOGY**



**IT-NETWORKZ INFOSYSTEMS PVT. LTD
KAVIN INDIA PVT. LTD
(Group of Company)**

INTERNSHIP REPORT

Guided by: -

Ms. Priyanka Mendhe

(Project Head)

**Project Head
IT-NetworkZ
Nagpur.**



Submitted by: -

Ms. Suheli Pathade

DECLARATION

During my internship in **IT-NetworkZ Infosystems Pvt.Ltd.** and preapartion of this report I realized that it is three joint venture guidance, assistance and co-operation. So it would've not been completed without and declaration and help received. It is matter of great privilages to express my deep sense of gratitude towards my guide Mrs. Priyanka Mendhe, the project head at **IT-NetworkZ Infosystems Pvt.Ltd.**, Nagpur. For having this guidance I am extremly to her for constant motivation and inspiration extends throughout during internship work which is made me to complete the work in scheduled time. My sincere thanks to all the facilities.

Submitted By: -



ACKNOWLEDGEMENT

I would like to thank my faculty for giving me opportunity to write about this project, awareness about internship, also the technical knowledge and further things, I am highly indebted to **IT-NetworkZ Infosystems Pvt.Ltd.** for their guidance and constant supervision as well as for providing necessary information regarding the project and also for their support in completing the project. Would like to express my gratitude towards my parent and member of **IT-NetworkZ Infosystems Pvt.Ltd.** for their kind co-operation and encouragement which help me in completion of this project. Would like to express my gratitude and thanks to industry persons for giving me such attention and time, my thanks and appreciations also go to people who have willingly helped me out with their abilities. I've enjoyed my internship in **IT-NetworkZ Infosystems Pvt.Ltd.** and also learnt about the software I used and also learnt about languages by which I made project. I would also like to thank my team members for motivating me and appreciating my work. Doing 1 month internship in company like **IT-NetworkZ Infosystems Pvt.Ltd.** is great opportunity for me. At last I would like to thank all members of **IT-NetworkZ Infosystems Pvt.Ltd.** for valuable support.

Guided by: -



Ms. Priyanka Mendhe

(Project Head)

**Project Head
IT-NetworkZ
Nagpur.**



Submitted by: -



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1. Company Information



Company Name: - IT-NetworkZ Infosystems Pvt.Ltd.

INTRODUCTION

M/S IT-NetworkZ is an IT company and part of Information Technology industry; it was inaugurated on 24th may 2007. IT-NetworkZ started its operations with Information Technology services include IT Infrastructure Management and professional IT Training and online exam facility, later in Dec 2009, company established Software Development wing as well. On 26th june 2015 company was incorporated "IT-NetworkZ Infosystems Pvt. Ltd.". company has its preference India & South-Africa, its head office is situated in Nagpur (Laxmi Nagar) and branch office at Nandanvan – Nagpur, Cape town & Johannesburg -South Africa. Company is running its all operations independently as per their Geographical area. India operations are handled by a team of 30-35 professionals.

Service Category: IT Training & International Assessment:

IT-NetworkZ has very strong bonding with educational institutions and hence established around 28+ MoU's with esteemed Institutions which comes under MSBTE, UGC and AICTE, these MoU's are done for student and Faculty development. Company has trained around 4000+ candidates under its banner usually 7200+ students attends IT-NetworkZ's tech sessions every years. IT-NetworkZ is ex authorised Prometric and Person VUE test center for International IT Exams. Currently, it is authorised by Kryterion Testing Network" for reputed Sales Force and other IT international exams; IT gaints "Persistent System Ltd." Had taken an initiative with company to start this facility for needy candidates.

Services Category: Live Projects & Internships:

Live projects & Internship turns student into professionals. Being a part of Industry IT-NetworkZ management started with this initiative to produce more quality and Industry ready professionals. Company is providing 6 weeks, 6 Months & 1 year Internship / Live projects for Final year and Graduate Candidates.

Services Category: Software Development:

IT-NetworkZ has terms of enthusiastic and creativity developersand designers. Company is providing stand alone, web applications and mobi8le app development to various clients. Till now company has completed various projects and working for some of the esteemed clients in Hospitality, Education, and Government sector. As per the market demand and own strength company has planned services based solutions in Matrimony, Employment, Education Listing, Electronics Test System & Venue Searching, etc. Company is planning to develop few solutions for health care industry as well as

Awards:

Awarded in TOP TEN Prometric Test Centres in the World, out of 5600+ Centres for the Year 2013 & 2014.

Microsoft Network Partner.

700+ Tech Sessions Delivered to 20,000+ Students.

Products Based on:

Microsoft Dot Net.

Virtualization.

Cloud

Linux

Hardware

Security

2. Introduction to C++

What is Programming Language?

Programming language is the language to communicate with the machine, particularly with computers. Programming languages can be used to write programs to control behavior of machine or to express algorithms.

Examples: C, C++, Java, C#, VB, etc.

There are two types of programming language:

1. Structured programming language
2. Object oriented programming language

1. Structured Programming Language :

Structured programming (sometimes known as modular programming) is a subset of procedural programming that enforces a logical structure on the program being written to make it more efficient and easier to understand and modify.

Examples: C, Ada, Pascal, etc.

2. Object Oriented Programming Language:

Object-oriented programming (OOP) is a programming paradigm that represents the concept of "objects" that have attributes that describe the objects characteristics and related methods (Functionality). Objects, which are usually instance of classes, are used to interact with one another to design applications and computer programs

Definition: Languages (Programming Language) which follows object-oriented programming (OOP) paradigm are known as Object Oriented Programming Languages.

Examples: C++, Java, C#, Ruby, Python, etc.

In object-oriented programming language model organized around object and data rather than procedures and logic. When we consider a C++ program, it can be defined as a collection of objects that communicate via invoking each other's methods. Let us now briefly look into what do class, object, methods and instant variables mean.

Object: Object is an instance of class, having its own set of attributes (or characteristics or data members or member variable or instant variable) and behavior (or functionality or member functions or methods).

Class: Class can be defined as a template/blueprint that describes the attributes and behavior. Class is combination of attributes and behaviors.

Attributes: Each class has set of attributes (or characteristics or data member or instant variable). Each object has its own unique set of attributes. An object's state is created by the values assigned to these instant variables.

Method (Or Function or Behavior): A class can contain many methods. Objects are communicating throw methods. It is in methods where the logics are written. data is manipulated and all the actions are executed.

3. Characteristics of object oriented programming:

1. Encapsulation:

Encapsulation is binding of attributes (Characteristics) and behavior (functions) and keeping data safe from outside. Data encapsulation is the mechanism to bundling the attributes and behavior in a single capsule that is class and keeping them safely and securely from outside interfaces. Data hiding is the mechanism to hide internal object details (data members) safely and securely from outside interfaces.

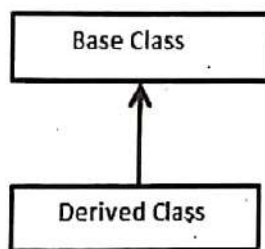
2. Abstraction:

Data abstraction refers to, providing only essential information to the outside world and hiding their background details, i.e., to represent the needed information in program without presenting the details. Data abstraction is mechanism of exposing only the interfaces and hiding the implementation details from the user. The ability to represent data at a very conceptual level without any details is known as abstraction.

3. Inheritance:

This is the process by which a class can be derived from a base class with all features of base class and some of its own. This increases code re-usability.

Inheritance allows us to define a class which is derived from another class, which makes it easier to create and maintain an application. This also provides an opportunity to reuse the code functionality and fast implementation time. We can inherit/derived one or more classes from one/more base classes.



Base Class: Base class is also known as parent class, the class from which we derive/inherit a child class.

Derived Class: Derived class is also known as child class, the class which we derive from base class parent class.

Types of Inheritance:

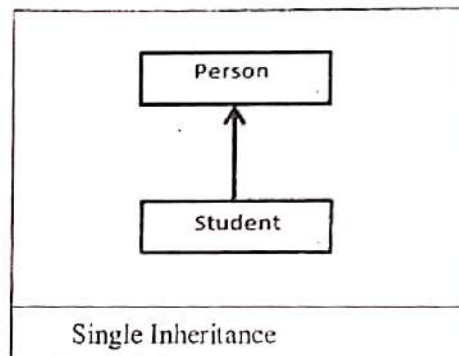
In C++, there are five types of inheritance

1. Single Inheritance

2. Multiple Inheritance
3. Multi Level Inheritance
4. Hierarchical Inheritance
5. Hybrid Inheritance

1. Single Inheritance :

In single inheritance we derived single class from single base class.

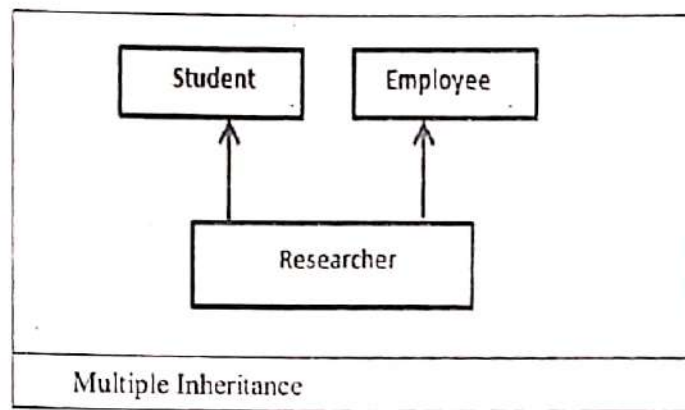


(Fig: Single Inheritance)

In above example we derive a child class Student from base class Person.

2. Multiple Inheritance :

In multiple inheritance we derived single class from more than one base class.

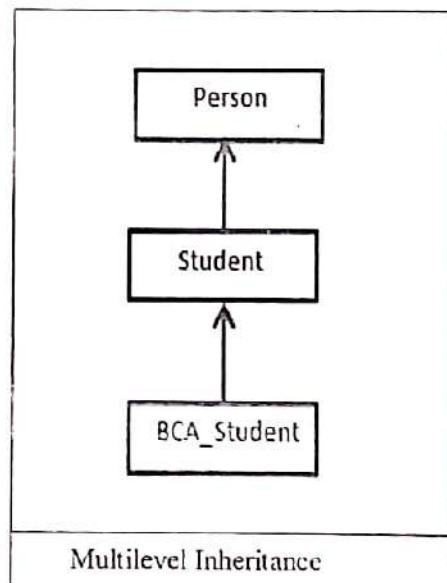


(Fig: Multiple Inheritance)

In above example we derive a class Researcher From two base classes Student and Employee.

3. Multilevel Inheritance :

In multilevel inheritance we derived a class from base class which is derived from another base class.

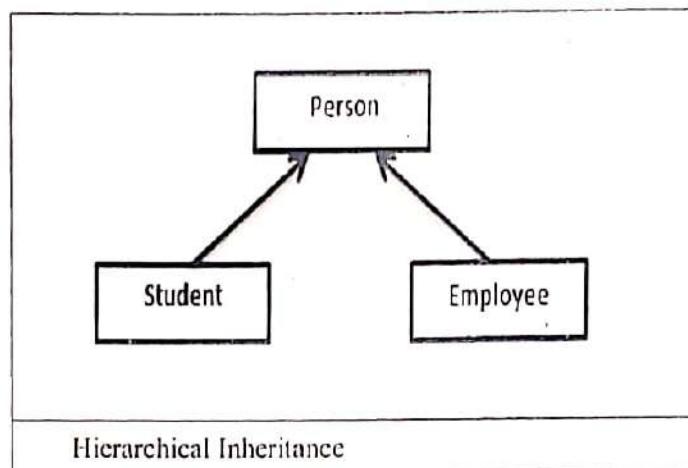


(Fig: Multilevel Inheritance)

In above example we derive Student Class from Student class, but student class itself is a derived class which is derived from person class.

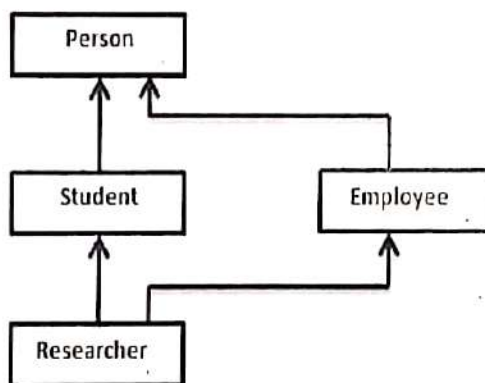
4. Hierarchical Inheritance :

In hierarchical Inheritance we derived multiple classes from a single base class.



(Fig: Hierarchical Inheritance).

5. Hybrid Inheritance: Hybrid Inheritance is combination of one or more type of inheritance.



(Fig : Hybrid Inheritance)

6. Polymorphism:

Ability to take more than one form. (Example – function overloading, operator overloading, etc.)
The word polymorphism means many forms. In object oriented programming language the ability to take more than one form is known as polymorphism. Performing different functionality/operation using same function/operation.

Example:

Overloading (We use same operator to perform different operations)- we can use + operator to add two int numbers, two float numbers and we can also add objects of same class.

Function overloading (We use same function to perform different functionality) - we can use area () function to calculate area of circle as well as area of rectangle.

9. Conclusion:

During this internship I prepared a project named Online Exam. The language used for the project is Java. To create the Online Exam I have used the swing package in java. I have added three buttons with action listeners –first to move to the next question and second isbookmark and third isto display result. The test is of 10 questions at the end of which one will know his score.

10 . References:

www.it-networkz.com

www.javatpoint.com

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www.tutorialspoint.com

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