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CSE-C

ASSIGNMENT - 1

Set - 4

1. what are the components of JAVA Platform? Explain. write a java Program to illustrate the usage of conditional statements and looping statements.

A. Java Platform is a software or collection of Programs that help us to execute applications written in Java Programming language. A Java platform consists of a Java compiler, a set of libraries, and an execution engine.

Java Platform is independent of any Particular OS which makes Java Programming language a Platform-independent language.

Java Platform consists of the following components:

* Java language
* The Java Development kit (JDK)
* The Java Runtime enviornment (JRE)
* The Java compiler
* The Java virtual Machine (JVM)

Apart from the above main components, the Java Platform also contains garbage collectors, a set of libraries and other additional components and tools that are required to efficiently run the Java applications.

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Java language :-

Java is a Programming language that the Java Platform uses. Java is an object-oriented Programming language whose syntax is derived from c and oops features are derived from c++. It has its syntax, rules, format and Programming Paradigm. In this series, we will learn all the major concepts in Java and Programming in detail.

The Java Development kit (JDK):

JDk is a software development enviornment used to develop Java applications and applets. It contains JRE and several development tools, an interpreter/loader (java), a compiler (javac), an archiver (jar), a documentation generator (javadoc) accompanied with another tool.

The Java Runtime enviornment: (JRE)

The JRE software builds a runtime enviornment in which Java Programs can be executed. The JRE is the on-disk system that takes Your Java code, combines it with the needed libraries, and Starts the Jvm to execute it. The JRE contains libraries and Software needed by your Java Programs to run. JRE is a Part of JDK but can be downloaded Seperately.

The Java compiler:

This is a compiler for javaProgramming language and its function is to generate java class files from the Java source code. Java class file contains a Platform-independent Java byte code.

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After generating class files, JVM loads these class files and either interprets the byte code or compiles it to machine code using Just-in-time (JIT) compiler.

The Java virtual machine (JVM):

Java applications are called WORA (write once Run Anywhere). because of their ability to run a code on any Platform. This is done only because of JVM. The JVM is a java platform component that provides an enviornment for executing Java Programs. JVM interprets the bytecode into machine code which is executed in the machine in which the Java Program runs.

Java Program (usage of conditional statements & looping statements)

```
class Test {
Public
    static void main(string[ ] args)
    {
        int i=0, j=9;
        do {
            i++;
            if (j-- <i++) {
                break;
            }
        } while (i<5);
        system.out.Println(i + " " + j);
    }
}
```

output:- 66

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2. write any six significant differences between Procedure oriented Programming and object oriented Programming. why JAVA is Robust Programming language? Explain.

A:

Procedural oriented Programming	object oriented Programming
In Procedural Programming Program is divided into small Parts called "functions"	In OOP, Program is divided into small Parts called objects.
Procedural Programming follows top down approach.	object oriented Programming follows bottom up approach.
There is no access specifiers in Procedural Programming.	OOP have access specifiers like Private, Public, Protected etc.
In Procedural Programing function is more important than data.	In OOP, data is more important than function.
In Procedural Programming overloading is not Possible.	overloading is Possible in object oriented Programming.
Procedural Programming is based on unreal world. Ex:- C, FORTRAN, PASCal, Basic etc.	object oriented Programming is based on real world. Ex:- C++, Python, Java etc...

Java is Robust because it is highly supported language. It is Portable across many operating systems. Java also has feature of Automatic

memory management and garbage collection. Strong type checking mechanism of Java also helps in making Java Robust. Bugs, especially system crashing bugs, are very rare in Java.

3. Define a class Parking Lot with the following description:

Instance variables/data members:

int vno - To store the vehical number.

int hours - To store the numbers of hours the vehicle is Parked in the Parking lot.

double bill - To store the bill amount.

Member methods:

Void input() - To input and store vno and hours

Void calculate() - To compute the Parking charge at the rate of RS.3 for the first hour or Part thereof and RS.1.50 for each additional hour or Part thereof.

Void display() - To display the detail

write a main method to create an object of the class and call the above methods.

A:

```
import java.util.Scanner;
Public class ParkingLot {
Scanner sc = new Scanner (System.in);
int vno, hours;
double bill;
Void input()
{
```

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```
        System.out.Println(" Enter vehical number");
        vno = sc.nextint();
        System.out.Println("enter no.of hours vehicle is Parked");
        hours : sc.nextint();
    }
    void calculate()
    {
      if(hours<=1)
      bill = hours*3;
      else if (hours>=1)
      bill: 3+(hours-1)*1.5;
      else
      System.out.Println("wrong value of hours");
    }
    void display()
    {
      System.out.Println("vehical number is"+vno);
      System.out.Println("it is Parked for"+hours+"hours");
      System.out.Println("Total amount to be Paid is RS."+bill);
    }
    Public static void main(String[] args)
    {
      ParkingLot obj = new ParkingLot();
      obj.inPut();
      obj.calculate();
      obj.display();
    }
}
```

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4. Design a class to overload a function Joystring() as follows:

i, void Joystring (string s, char ch1, char ch2) with one string and two character arguments that replaces the character argument ch1 with the character argument ch2 in the given string s and Prints the new string.

Example:

Input value of S="TECHNALAGY"

ch1 = 'A'

ch2 = 'O'

output: "TECHNOLOGY"

ii, void Joystring(String s) with one String argument that Prints the Position of the first space and the last space of the given String s.

Example:

Input value of = "cloud computing means Internet baged computing".

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iii, void joystring (String s1, String s2) with two string arguments that combines the two strings with a space b/w them and Prints the resultant string.

Example:

Input value of S1 = "COMMON WEALTH"

S2 = "GAMES"

output: "COMMON WEALTH GAMES".

A.-

```
import Java.util.*;
Public class overload
{
```

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```
Static  void  Joystring (String S, char ch1, charch2)
{
String va = S.replace(ch1,ch2);
System.out.Println("New String is"+" "+va);
}
Static  void  Joystring(String S)
{
int i1 : S.indexof(" ");
int i2 = S.lastindexof(" ");
System.out.Println("Index Position of first space:"+i1);
System.out.Println("Index Position of last space:"+i2);
}
Static  void Joystring (String S1,String S2)
{
System.out.Println("New String is "+S1+" "+S2);
}
Public static void main(String[] args)
{
Joystring("TECHNALAGY",'A','O');
Joystring("cloud computing means Internet based Computing");
Joystring("COMMON WEALTH","GAMES");
}
}
```