JAVA ASSIGNMENT-1

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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.

The Java platform.

A platform is the hardware or software Environment in which a program runs. We've already mentioned some of the most popular platforms like Microsoft windows. Linux, Solaris OS, and Mac OS. Most platforms can be described as a combination of the operating system and underlying hardware. The Java platform differs from most other platforms in that it's a software-only platform that runs on top of other hardware-base platforms.

The Java platform has two components:

* The Java Virtual Machine.
* The Java application programming Interface (API)

You've already been introduced to the Java virtual Machine. It's the base for the Java platform and is ported onto various hardware-based platforms

The API is a large collection of ready-made software components that Provide many useful capabilities. It is grouped into libraries of related classes and interfaces. these libraries are known as packages.

My program.java.

API
Java Virtual Machine } Java Platform

Hardware-Based platform

The API and Java Virtual Machine insulate the program from the underlying hardware.

The terms "Java Virtual Machine" and "JVM" mean a Virtual Machine for the Java platform.

→ program using both conditional and looping statements :-

```
Class Test {
    Public static void main (String[] args)
    {
      int i=0, j=9;
      do {
          i++;
          if (j-- < i++){
          break;
          }
       } while (i<2);
       System.out.println (i+" "+j);
    }
}.
```

Output :- 66

Explanation :- Here we specifically used break Execution of the Program is going as usual to control flow of do-while loop but when Ever it turns break statement it control out from the loop.

2. Write any Six Significant differences between procedure oriented Programming and object oriented programming. Why JAVA is Robust Programming language ? Explain.

Procedural oriented Programming.	object oriented Programming.
1. In procedural programming Program is divided into small Parts called functions.	1. In object oriented programming Program is divided into small Parts called objects.
2. procedural programming follows top down approach.	2. object oriented programming follows bottom down approach.
3. There is no access Specifier in Procedural programming.	3. object oriented programming have access specifiers like private Public, protected Etc..,
4. Adding new data and function is not Easy.	4. Adding new data and function is Easy.

5. In procedural programming, function is more important than data.	5. In object oriented Programming data is more important than function.
6. Procedural programming is based on unreal world.	6. object oriented programming is base on real world.
Eg:- C, FORTRAN, Pascal, Basic etc.	Eg:- C++, Java, python, C# etc.

Java robust programming language :-

Java is robust because : It uses strong memory managment. There is automatic garbage collection in Java which runs on the Java virtual Machine to get rid of objects which are not being used by a Java application anymore. There are Exception handling and the type checking mechanism in Java.

3. Define a class parking lot with the following description:

Instance variables / data members:

int vno - To store the vehicle 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.

```
import java.util.*;
class parkingLot
{
    Private int vno, hours;
    double bill;
    Public void input()
    {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter vehicle Number");
        vno = sc.nextInt();
        System.out.println("Enter Number of Hours");
        hours = sc.nextInt();
    }
```

```
Public void calculate ()
{
    if (hours <= 1)
    bill = hours * 3 ;
    else
    bill = 3 + (hours - 1) * 1.5;
}
Public void display()
{
  system.out.println ("Vehicle Number" + vno );
  system.out.println ("Number of Hours " + Hours);
  system.out.println ("parking charges" + bill);

}
Public static void Main ()
{
    Parking Lot p = new Parking Lot ();
    P. input ();
    P. calculate ();
    P. display ();
}
}
```

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 = "TECHNIALAGY"

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 based computing"

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iii. Void Joystring (String s1, String s2) with two string arguments that combines the two strings with a space between them and prints the resultant string.

Example:-

Input value of s1 = "COMMON WEALTH"

s2 = "GAMES"

output: "COMMON WEALTH GAMES".

```
import java.util.*;
class Overload
{
   void joystring (String s, char ch1, char ch2)
   {
      String str = s.replace (ch1, ch2)
      System.out.println (str);
   }
   void joystring (String s)
   {
     int first = s.indexof (' ');
     System.out.println ("First index :"+first);
     int last =s.lastIndex of (' ');
     System.out.println ("Last index :"+last);
   }
   void joystring (String s1, String s2)
   {
      String s3 =" ";
      String str = s1.Concat (s3).Contact (s2);
      System.out.println (str);
   }
   Public static void main (String args [])
   {
     overload obj=new Overload ();
     obj.joystring ("TECHNALAGY", 'A', 'O');
     obj.joystring ("cloud computing means Internet based computing");
     obj.joystring ("COMMON WEALTH", "GAMES");
   }
}
```