Days1(Assignment)

Q1) Mention the difference between interpreter and complier?

Ans) INTERPRETER:

1) Interpreter translates just one statement of the program at a time into machine code.

2) An interpreter takes very less time to analyze the source code. However, the overall time to execute the process is much slower.

3) An interpreter does not generate an intermediary code. Hence, an interpreter is highly efficient in terms of its memory.

4) Keeps translating the program continuously till the first error is confronted. If any error is spotted, it stops working and hence debugging becomes easy

5) Interpreters are used by programming languages like Ruby and Python for example.

COMPLIER:

1) Compiler scans the entire program and translates the whole of it into machine code at once.
2) A compiler takes a lot of time to analyze the source code. However, the overall time taken to execute the process is much faster.
3) A compiler always generates an intermediary object code. It will need further linking. Hence more memory is needed.
4) A compiler always generates an intermediary object code. It will need further linking. Hence more memory is needed.
5) Compliers are used by programming languages like C and C++ for example.

Q2) 2. Define a class Student with following members:

int roll, String name, float marks.

input() to take input of the details

display() to all details of a student.

Write a program to which will store details of a student and print the details using the above

Ans)

Data Members	Purpose
String name	To store the name of the student
int eng	To store marks in English
int hn	To store marks in Hindi
int mts	To store marks in Maths
double total	To store total marks
double avg	To store average marks

Member Methods	Purpose
void accept()	To input marks in English, Hindi and Maths
void compute()	To calculate total marks and average of 3 subjects
void display()	To show all the details viz. name, marks, total and average

PROGRAM:)

```java
import java.util.Scanner;

public class Student
{
    private String name;

    private int eng;

    private int hn;

    private int mts;

    private double total;

    private double avg;

    public void accept() {
        Scanner in = new Scanner(System.in);
        System.out.print("Enter student name: ");
        name = in.nextLine();
        System.out.print("Enter marks in English: ");
        eng = in.nextInt();
        System.out.print("Enter marks in Hindi: ");
        hn = in.nextInt();
        System.out.print("Enter marks in Maths: ");
        mts = in.nextInt();
```

```java
    }

    public void compute() {
        total = eng + hn + mts;
        avg = total / 3.0;
    }

    public void display() {
        System.out.println("Name: " + name);
        System.out.println("Marks in English: " + eng);
        System.out.println("Marks in Hindi: " + hn);
        System.out.println("Marks in Maths: " + mts);
        System.out.println("Total Marks: " + total);
        System.out.println("Average Marks: " + avg);
    }

    public static void main(String args[]) {
        Student obj = new Student();
        obj.accept();
        obj.compute();
        obj.display();
    }
```

}

OUTPUT:)

```
Enter student name: Preeti Pathak
Enter marks in English: 86
Enter marks in Hindi: 92
Enter marks in Maths: 95
Name: Preeti Pathak
Marks in English: 86
Marks in Hindi: 92
Marks in Maths: 95
Total Marks: 273.0
Average Marks: 91.0
```