**Day 1 Java Programming**:

Assignment:

|  |  |
| --- | --- |
| Interpreter | Compiler |
| Translates program one statement at a time. | Scans the entire program and translates it as a whole into machine code. |
| Interpreters usually take less amount of time to analyze the source code. However, the overall execution time is comparatively slower than compilers. | Compilers usually take a large amount of time to analyze the source code. However, the overall execution time is comparatively faster than interpreters. |
| No Object Code is generated, hence are memory efficient. | Generates Object Code which further requires linking, hence requires more memory. |
| Programming languages like JavaScript, Python, Ruby use interpreters. | Programming languages like C, C++, Java use compilers. |

**1.Mention the difference between interpreter and compiler.**

**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 class.**

student class has four properties namely roll number, name, standard and total marks. All these properties have respective methods to get and set object values.

The student class has two constructors, one is the default, and another one is overloaded to accept all four properties and set them to object properties. Student class also has overridden the toString method from Object class which prints the nice summary when student object is printed.

package com.javadayone;

public class Student {

    /\* Student properties \*/

    private String rollNumber;

    private String name;

    private String standard;

    private int totalMarks;

    //default constructor

    public Student(){

    }

    /\*

     \* overloaded constructor to set all

     \* student object properties at once

     \*/

    public Student(String rollNumber, String name, String standard, int totalMarks){

        /\*

         \* this.variable\_name always refer to class level properties

         \*/

        //set object properties from the arguments/parameters

        this.rollNumber = rollNumber;

        this.name = name;

        this.standard = standard;

        this.totalMarks = totalMarks;

    }

    /\* Methods to get and set the student properties \*/

    public String getRollNumber() {

        return rollNumber;

    }

    public void setRollNumber(String rollNumber) {

        this.rollNumber = rollNumber;

    }

    public String getName() {

        return name;

    }

    public void setName(String name) {

        this.name = name;

    }

    public String getStandard() {

        return standard;

    }

    public void setStandard(String standard) {

        this.standard = standard;

    }

    public int getTotalMarks() {

        return totalMarks;

    }

    public void setTotalMarks(int totalMarks) {

        this.totalMarks = totalMarks;

    }

    /\*

     \* This method will product nice summary of Student object

     \* when printed using System.out.println in the format below

     \*

     \* [01 : Raj : 10th : 200]

     \*/

    public String toString(){

        StringBuilder sbStudent = new StringBuilder();

        sbStudent.append("[");

        sbStudent.append(getRollNumber());

        sbStudent.append(" : ");

        sbStudent.append(getName());

        sbStudent.append(" : ");

        sbStudent.append(getStandard());

        sbStudent.append(" : ");

        sbStudent.append(getTotalMarks());

        sbStudent.append("]");

        return sbStudent.toString();

    }

}