Mention the difference between interpreter and compiler.

|  |  |  |
| --- | --- | --- |
| **Compiler** | Compiler scans the whole program in one go. | **Interpreter**  Translates program one statement at a time. |
|  | As it scans the code in one go, the errors (if any) are shown at the end together. | Considering it scans code one line at a time, errors are shown line by line. |
|  | Main advantage of compilers is it’s execution time. | Due to interpreters being slow in executing the object code, it is preferred less. |
|  | It converts the source code into object code. | It does not convert source code into object code instead it scans it line by line |
|  | It does not require source code for later execution. | It requires source code for later execution. |
| Eg. | C, C++, C# etc. | Python, Ruby, Perl, SNOBOL, MATLAB, etc. |

2) import java.lang.\*;

import java.io.\*;

class student

{

String name;

int roll\_no;

int sub1,sub2;

int total;

float per;

void getdata() throws IOException

{

BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

System.out.println ("Enter Name of Student");

name = br.readLine();

System.out.println ("Enter Roll No. of Student");

roll\_no = Integer.parseInt(br.readLine());

System.out.println ("Enter marks out of 100 of 1st subject");

sub1 = Integer.parseInt(br.readLine());

System.out.println ("Enter marks out of 100 of 2nd subject");

sub2 = Integer.parseInt(br.readLine());

}

void show()

{

total=sub1+sub2;

per=(total\*100)/200;

System.out.println ("Roll No. = "+roll\_no);

System.out.println ("Name = "+name);

System.out.println ("Marks of 1st Subject = "+sub1);

System.out.println ("Marks of 2nd Subject = "+sub2);

System.out.println ("Total Marks = "+total);

System.out.println ("Percentage = "+per+"%");

}

}

class q2Student

{

public static void main(String args[]) throws IOException

{

student s=new student();

s.getdata();

s.show();

}

}

3)

public class Student {

    private String rollNumber;

    private String name;

    private String standard;

    private int totalMarks;

        public Student(){

    }

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

        this.rollNumber = rollNumber;

        this.name = name;

        this.standard = standard;

        this.totalMarks = totalMarks;

    }

    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;

    }

    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();

    }

}