**Interface**

**30-12-22**

import java.util.Scanner;

public class InterfacedScoreCalc {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

Student student;

int opt = 0;

System.out.println("Choose an option\n1.UnderGraduate\n2.Graduate");

opt = scanner.nextInt();

switch(opt){

case 1: System.out.println("Enter your name");

student = new UndergraduateStudent(scanner.next());

System.out.println("Enter your marks");

for(int i = 0; i<4; i++){

student.setTestScore(i, scanner.nextInt());

}

System.out.println("Student Name: " + student.getStudentName());

System.out.println("Result: " + student.getTestResult());

break;

case 2: System.out.println("Enter your name");

student = new GraduateStudent(scanner.next());

System.out.println("Enter your marks");

for(int i = 0; i<4; i++){

student.setTestScore(i, scanner.nextInt());

}

System.out.println("Student Name: " + student.getStudentName());

System.out.println("Result: " + student.getTestResult());

break;

}

}

}

interface StudentFunctions{

void generateResult();

}

abstract class Student implements StudentFunctions{

String studentName;

int[] testScores = new int[4];

String testResult;

Student(String studentName) {

this.studentName = studentName;

testResult = "Default";

}

abstract public void generateResult();

void setTestScore(int testNumber, int testScore) {

testScores[testNumber] = testScore;

}

String getStudentName() {

return this.studentName;

}

void setStudentName(String studentName) {

this.studentName = studentName;

}

int[] getTestScores() {

return this.testScores;

}

String getTestResult() {

this.generateResult();

return testResult;

}

void setTestResult(String testResult) {

this.testResult = testResult;

}

}

class UndergraduateStudent extends Student {

UndergraduateStudent(String studentName) {

super(studentName);

}

@Override

public void generateResult() {

int a[] = this.getTestScores();

int sum = 0;

for (int i = 0; i < 4; i++) {

sum += a[i];

}

int avg = sum / 4;

if (avg >= 60)

this.setTestResult("Pass");

else

this.setTestResult("Fail");

}

}

class GraduateStudent extends Student {

GraduateStudent(String studentName) {

super(studentName);

}

@Override

public void generateResult() {

int a[] = this.getTestScores();

int sum = 0;

for (int i = 0; i < 4; i++) {

sum += a[i];

}

int avg = sum / 4;

if (avg >= 70)

this.setTestResult("Pass");

else

this.setTestResult("Fail");

}

}

