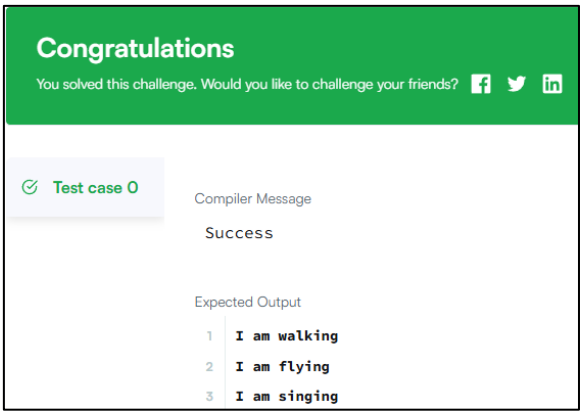
You must add a *sing* method to the *Bird* class, then modify the *main* method accordingly so that the code prints the following lines:

I am walking

I am flying

I am singing

```
class Animal{
    void walk(){
        System.out.println("I am walking");
    }
}

class Bird extends Animal{
    void fly(){
        System.out.println("I am flying");
    }
    void sing(){
        System.out.println("I am singing");
    }
}

public class Solution{

   public static void main(String args[]){

      Bird bird = new Bird();
      bird.walk();
      bird.fly();
      bird.sing();

   }
}
```

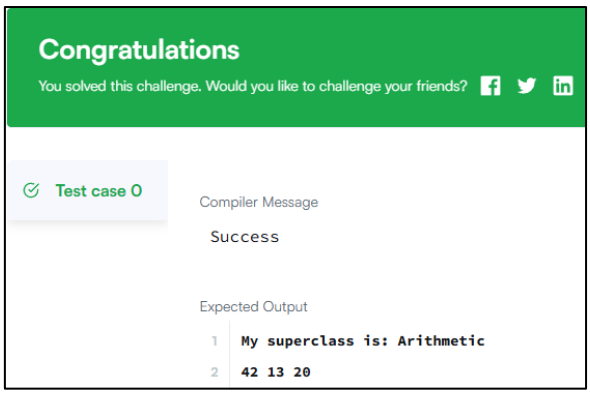


Write the following code in your editor below:

1. A class named *Arithmetic* with a method named *add* that takes 2 integers as parameters and returns an integer denoting their sum.
2. A class named *Adder* that inherits from a superclass named *Arithmetic*.

Your classes should not be public.

```
import java.io.*;
import java.util.*;

class Arithmetic {
    public int add(int a, int b) {
        return a + b;
    }
}

class Adder extends Arithmetic {}

public class Solution {
    public static void main(String[] args) {
        Adder adder = new Adder();
        System.out.println("My superclass is: Arithmetic");
        System.out.println(adder.add(20, 22) + " " + adder.add(7, 6) + " " + adder.add(10,
10));
    }
}
```



Task

You are given two classes, *Person* and *Student*, where *Person* is the base class and *Student* is the derived class. Completed code for *Person* and a declaration for *Student* are provided for you in the editor. Observe that *Student* inherits all the properties of *Person*.

Complete the *Student* class by writing the following:

- A *Student* class constructor, which has 4 parameters:
    1. A string, **firstName**.
    2. A string, **lastName**.
    3. An integer, **idNumber**.
    4. An integer array (or vector) of test scores, **scores**.
- A *char* ***calculate()*** method that calculates a Student object's average and returns the grade character representative of their calculated average:

```
import java.util.*;

class Person {
    protected String firstName;
    protected String lastName;
    protected int id;

    public Person(String firstName, String lastName, int id) {
        this.firstName = firstName;
        this.lastName = lastName;
        this.id = id;
    }

    public void printPerson() {
        System.out.println("Name: " + lastName + ", " + firstName);
        System.out.println("ID: " + id);
    }
}

class Student extends Person {
    private int[] testScores;

    public Student(String firstName, String lastName, int id, int[] scores) {
        super(firstName, lastName, id);
        this.testScores = scores;
    }

    public char calculate() {
        int sum = 0;
        for (int score : testScores) {
            sum += score;
        }
        int avg = sum / testScores.length;

        if (avg >= 90) return 'O';
        else if (avg >= 80) return 'E';
        else if (avg >= 70) return 'A';
        else if (avg >= 55) return 'P';
        else if (avg >= 40) return 'D';
        else return 'T';
    }
}

public class Solution {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        String firstName = scanner.next();
        String lastName = scanner.next();
        int id = scanner.nextInt();
        int numScores = scanner.nextInt();

        int[] scores = new int[numScores];
```

```
        for (int i = 0; i < numScores; i++) {
            scores[i] = scanner.nextInt();
        }
        scanner.close();

        Student student = new Student(firstName, lastName, id, scores);
        student.printPerson();
        System.out.println("Grade: " + student.calculate());
    }
}
```