

Objective

Today, we're delving into Inheritance. Check out the attached tutorial for learning materials and an instructional video!

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, ***id***.
 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:

Grading Scale	
Letter	Average (<i>a</i>)
O	$90 \leq a \leq 100$
E	$80 \leq a < 90$
A	$70 \leq a < 80$
P	$55 \leq a < 70$
D	$40 \leq a < 55$
T	$a < 40$

Input Format

The locked stub code in your editor calls your *Student* class constructor and passes it the necessary arguments. It also calls the *calculate* method (which takes no arguments).

You are not responsible for reading the following input from stdin:

The first line contains ***firstName***, ***lastName***, and ***id***, respectively. The second line contains the number of test scores. The third line of space-separated integers describes ***scores***.

Constraints

- $1 \leq |\mathbf{firstName}|, |\mathbf{lastName}| \leq 10$
- $|\mathbf{id}| \equiv 7$
- $0 \leq \mathbf{score}, \mathbf{average} \leq 100$

Output Format

This is handled by the locked stub code in your editor. Your output will be correct if your *Student* class constructor and *calculate()* method are properly implemented.

Sample Input

```
Heraldo Memelli 8135627
2
100 80
```

Sample Output

```
Name: Memelli, Herald
ID: 8135627
Grade: O
```

Explanation

This student had **2** scores to average: **100** and **80**. The student's average grade is $\frac{(100+80)}{2} = 90$. An average grade of **90** corresponds to the letter grade **O**, so our *calculate()* method should return the character 'O'.