

STUDENT ACTIVITY 2.1: OBJECT-ORIENTED PROGRAMMING

MTA Course: Software Development Fundamentals

Topic: Understand the fundamentals of classes

File name: SoftDevFund_SA_2.1

Lesson Objective:

2.1: Understand the fundamentals of classes.

Resources, software, and additional files needed for this lesson:

- SoftDevFund_PPT_2.1
- SoftDevFund_RL_2.1
- SoftDevFund_SA_2.1
- SoftDevFund_SA_2.1_key

Directions to the student:

Complete each activity as described.

Content:

1. Write a constructor for the following class that initializes the variables `idNumber`, `gpa` and `name`.

```
public class Student
{
    private int idNumber;
    private double gpa;
    private String name;

    public Student( _____, _____, _____)
    {
        _____;

        _____;

        _____;

    }
}
```

2. Identify the components of the following method:

```
public double calculateAverage(int score, int total)
{
    return score/total;
}
```

Access modifier _____

Return type _____

Method name _____

Parameters _____

3. Implement a class according to the following description and write a tester/driver class to instantiate an object of the class and call its `displayArea` method.

Write a class called `Triangle` that has two properties: `theBase` and `theHeight`. The constructor for a triangle initializes the `theBase` and `theHeight`, while a method called `displayArea` will calculate its area and display it to the console window. Use the formula $area = .5(base * height)$.