

# Assignment 9

## Exercise 1 (8pt)

Implement the `GeometricObject` class, it should provide

- The `x, y` position
- An empty constructor that initialises it at 0,0
- A constructor that takes the 2 fields
- A method `getArea()` that returns the area
- A method `getPerimeter()` that returns the perimeter

Implement also 2 subclasses (add all necessary fields and methods)

- `Circle`
- `Rectangle`

Write a main method that creates an `ArrayList` of `GeometricObject` and to store at least 2 different shapes and computes the total area and total perimeter.

## Exercise 1 (7pt)

Implement the `Stack` of `int` class by extending the `ArrayList` class. It should contain the following methods:

- `size()` return the size of the list
- `peek()` returns the top integer
- `pop()` returns the top integer and returns it.
- `push(int)` adds an integer to the top of the stack
- `toString()`
- `equals()`

Note: some of the methods might be already implemented in the `ArrayList` class and you will not need to reimplement them.

# Instructions

The solution of the exercises must be provided as a **java** (for the code, do not submit class files), **png** (for eventual screenshot), and **pdf** (for eventual text) files. The **files must be zipped** together before upload.

**Assignments not respecting these instructions will be ignored.**