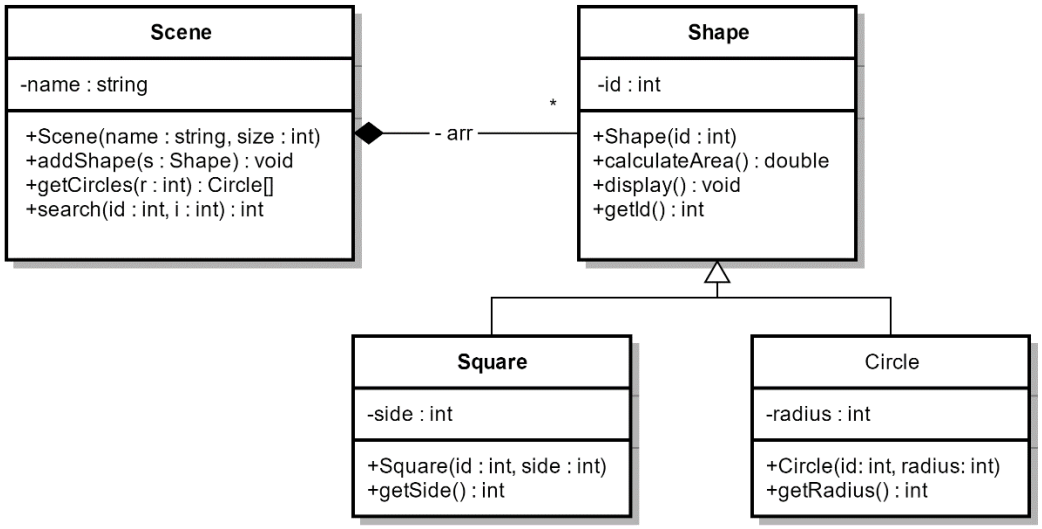
King Saud University
College of Computer and Information Sciences
Department of Computer Science
CSC113 – Computer Programming II – Lab Exam – Spring 2017



Shape:

- ***Shape(id : int)*** - constructor.
- ***display()*** – this method prints all attributes in **Shape**, **Circle** and **Square**.
- ***calculateArea()*** – this method calculates and returns the area of the shape as follows:
  - **Square**: side * side
  - **Circle**: radius * radius * 3.14

Square:

- ***Square(id : int, side : int)*** - constructor.
- ***getSide() –*** getter for attribute ***side***.

Circle:

- ***Circle(id : int, radius : int)*** – constructor.
- ***getRadius()*** – getter for attribute ***radius***.

Scene:

- ***Scene(name : String, size : int)*** - constructor
- ***addShape(s : Shape)*** – this method adds a new shape to the array
- ***getCircles(r : int)*** – this method will return an array of **circles** with radius larger than **r**.
- ***search(id : int, i : int)*** – this method searches for the shape with the given id and returns the index **recursively**. (Hint: use ***i*** as a counter. If you find it, return it. Otherwise check the next index)

Translate to java **all classes** in the UML.