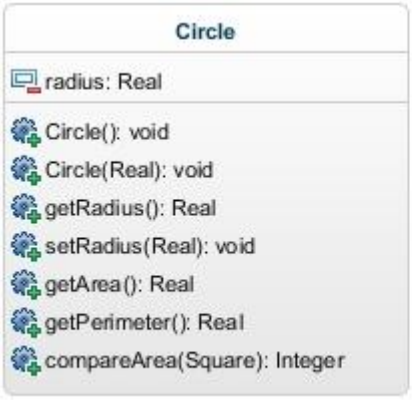
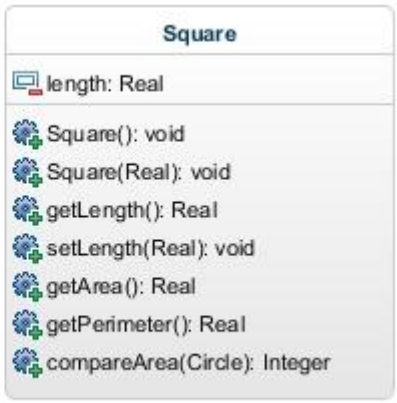
Circle and Square Classes(Lab 3)

We would like to create 2 Java Classes named Circle and Square which can satisfy attributes and methods in the UML class diagram shown below.





Below are the order of steps you should follow

1. Create a class definitions of Circle and Square
2. Create attributes of both classes
3. Create methods of Square class
4. Create methods of Circle class
5. Create a test class with a main method which is for testing Circle and Square classes. Running example of the test class should be like below.

When you finished writing test class, desired output of the application should be like below

```
Welcome to Circle/Square Tester. Please select an entry from menu:
1 - Modify a circle object
2 - Modify a square object
3 - Compare square and circle
4 - Exit
3
Circle area=0,000000 Square area=0,000000
Areas are equal
Welcome to Circle/Square Tester. Please select an entry from menu:
1 - Modify a circle object
2 - Modify a square object
3 - Compare square and circle
4 - Exit
1
Enter radius: 3
Welcome to Circle/Square Tester. Please select an entry from menu:
1 - Modify a circle object
2 - Modify a square object
3 - Compare square and circle
4 - Exit
3
Circle area=28,274334 Square area=0,000000
Circle is bigger than square
Welcome to Circle/Square Tester. Please select an entry from menu:
1 - Modify a circle object
2 - Modify a square object
3 - Compare square and circle
4 - Exit
2
Enter length: 6
Welcome to Circle/Square Tester. Please select an entry from menu:
1 - Modify a circle object
2 - Modify a square object
```

```
3 - Compare square and circle
4 - Exit
3
Circle area=28,274334 Square area=36,000000
Square is bigger than circle
Welcome to Circle/Square Tester. Please select an entry from menu:
1 - Modify a circle object
2 - Modify a square object
3 - Compare square and circle
4 - Exit
4
```

Definition of the methods are given below

Class Square

- **Square** ()

  Description: default constructor

- **Square** (l : Real)

  Description: Constructor takes side length as parameter

- Real **getLength** ()

  Description: returns the lengthvalue

- Void **setLength** (l : Real)

  Description: sets the length

- Real **getArea** ()

  Description: Area(Alan) is calculated by using length.
  A=a*a

- Real **getPerimeter** ()

  Description: Perimeter(Çevre) is calculated by using length.
  A=4*a

- Integer **compareArea** (circle : Circle)

  Description: Compares the area of the object and the circle and returns 0:If the areas are equal
  1:If the square's area is bigger -1:If the circle's area is
  bigger

Class Circle

- **Circle** ()

  Description: Default constructor

- **Circle** (r : Real)

  Description: Constructor takes radius as parameter

- Real **getRadius** ()

Description: returns the radius value

- Void **setRadius** (r : Real)

Description: sets the radius

- Real **getArea** ()

Description: Area(Alan) is calculated by using radius.
A=π*r*r

- Real **getPerimeter** ()

Description: Perimeter(Çevre) is calculated by using radius.
A=2*π*r

- Integer **compareArea** (square : Square)

Description: Compares the area of the object and the square and returns 0:If the areas are equal 1:If the circle's area is bigger -1:If the square's area is bigger