



General Sir John Kotelawala Defence University
Department of Computer Science
Object Oriented Programming I
Lab Sheet 7
Inheritance

1. Write a class called Square, as a subclass of Rectangle, which contains:

- (i) Square has no instance variable, but inherits the instance variables width and length from its superclass Rectangle.
- (ii) Three constructors as given below.

- The no-arg constructor.
- A constructor that initializes the side to the given value.

Hint:

```
public Square(double side) {  
    super(side, side); // Call superclass Rectangle(double, double)  
}
```

- A constructor that initializes the side, color and filled to the given values.

Hint:

```
public Square(double side, String color, boolean filled) { // Call  
    superclass Rectangle(double, double, string, boolean)  
}
```

(iii) Write public double getSide() and public void setSide(double side) meth-ods.

(iv) Override the toString() method to return "A Square with side=xxx, which is a subclass of yyy", where yyy is the output of the toString() method from the superclass.

(v) Override the setLength() and setWidth() to set both the width and length to the same value.

(vi) Do you need to override the getArea() and getPerimeter()? Try them out.
