**North South University**
Department of Electrical and Computer Engineering
CSE 215L: Programming Language II Lab
Lab – 7: Introduction to classes and objects

**Learning Objectives:**
- to learn about classes and objects in detail
- to implement a class using UML diagram

| Circle |
| --- |
| - radius: double |
| + Circle()<br>+ Circle(r: double)<br>+ setRadius(r: double): void<br>+ getRadius(): double<br>+ getArea(): double<br>+ getPerimeter(): double<br>+ toString(): String |

**Lab Task:**
a) Write a  program that converts the UML diagram into class codes.

b) Create an instance with radius = 7 and print the area and perimeter.

c) Create an instance with default constructor and print the area and perimeter. Later, change its radius to print the updated area and perimeter. [Hint: print the result with a method to simplify your code.]

d) Do the necessary changes in your class codes to find out how many instances of circle class are created and print the result. [Hint: you need to use static variable & method]

e) Create an array of 3 Circle instances and print the status [Hint: each circle radius must read from the user and toString() method to return a string with radius, area and perimeter]