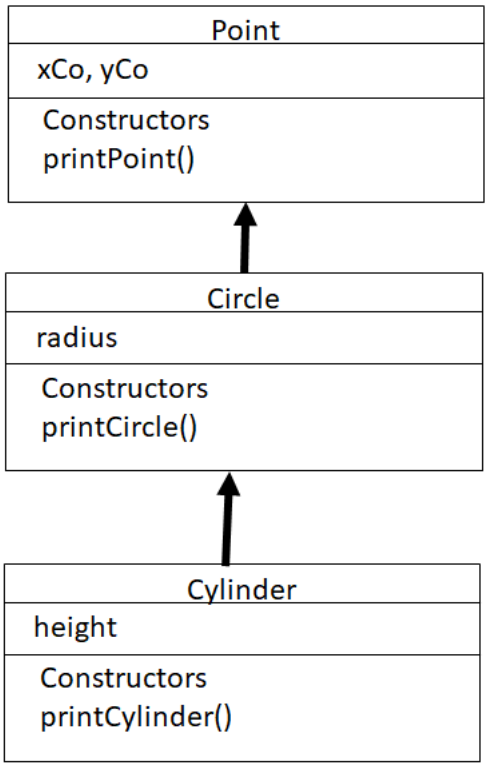
Object oriented programming using JAVA - LAB

Assignment 5

Total mark – 40

Topic: Object as parameter, Inheritance, Dynamic binding

Sl. No.	Question
1	Create a class called **Complex** for performing arithmetic on complex numbers. Complex numbers have the form **a+bi** where **a** is real part and **b** is imaginary part and i=√-1. Write a program to test your class. Use floating point variables to represent the private data of the class. Provide constructor that enable an object to be initialized when it is declared. Provide no argument constructor with default values in case no initializers are provided. Provide public methods for addition, subtraction, multiplication and division of complex numbers. Pass objects of Complex as parameters of the method. Input and Output Requirements: Program reads real and imaginary parts of two complex numbers through keyboard and displays their sum, difference, product and quotient as result.
2	Design following class hierarchies.  Data members are private, constructors and methods are public. Test the methods of all classes by creating objects of Cylinder class in the main method under another class.
3	Modify the above program to demonstrate the method overriding.
4	Demonstrate the dynamic binding by modifying question 3.