**OBJECT ORIENTED PROGRAMMING**

**WEEK – IV**

**WEEK-4: OVERLOADING & OVERRIDING**

1. Write a java program to implement method overloading.
2. Write a java program to implement constructor overloading
3. Write a java program to implement method overriding.

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| **S.No** | **Problem Statement** |
| 1 | Create a class to print the area of a square, rectangle and circle. The class has three methods with the same name but different number of parameters. The method for printing area of rectangle has two parameters which are length and breadth respectively while the other method for printing area of square has one parameter which is side of square and for printing area of circle has one  parameter which is radius. |
| 2 | Create a class 'Student' with three data members which are name, age and address. It has two members with the same name 'setInfo'. First method has two parameters for name and age and assigns the same whereas the second method takes has three parameters which are assigned to name, age and address  respectively. Print student details. |
| 3 | Create a class to print the volume of a Cube, Cuboid and Sphere. The class has three methods with the same name but different number of parameters. The method for printing volume of Cube has one parameter which is side, the other method for printing volume of Cuboid has three parameters which are length, width and height. While the other method for printing volume of Sphere has one  parameter which is radius. [ Cube = s3, Cuboid = l\*b\*h, Sphere=4/3\*pi\*r3] |
| 4 | Create a class 'Student' having a method 'getInfo' that prints "I am a Student". It has three subclasses namely 'Undergraduate' , 'Postgraduate' and ‘Doctorate’ each having a method with the same name that prints "I am an Undergraduate" , "I am a Postgraduate" and "I am a Doctorate" respectively. Call the method by creating an object of each of the three classes. |

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| 5 | A boy has his money deposited $1000, $1500 and $2000 in banks-Bank A, Bank  B and Bank C respectively. We have to print the money deposited by him in a particular bank.  Create a class 'Bank' with a method 'getBalance' which returns 0. Make its three subclasses named 'BankA', 'BankB' and 'BankC' with a method with the same name 'getBalance' which returns the amount deposited in that particular bank.  Call the method 'getBalance' by the object of each of the three banks. |