OOP Lab Assignment – 01

Question 01:

Write a java program to implement the following. Create two user defined arrays with different sizes (unsorted) then sort these arrays and finally merge them

Question 02:

Write a java program to determine whether a given matrix is sparse matrix or not. (Matrix should be user defined.)

Question 03:

Write a java program to left and right rotate the array by a given number of positions.

(Number of positions to shift must be read from the console.)

Testcases:

1) Array: 9 5 7 2 6 3 8

Positions: 3

Output:

Left rotate: 2 6 3 8 9 5 7

Right rotate: 6 3 8 9 5 7 2

Question 04:

Write a java program to implement the following

Create a class called as Department, inside this create an instance variable called as course name and static variable called as department name and now one function for course details inside this function local variables for number of students enrolled, faculty name, and credits of that course. Now from another class create object for department class and print the relevant data specified above.

Question 05:

Write a java program to implement the following.

Create a base class Shape containing name as field. Class Shape will have a public method called getName() that returns the name of the shape. Create a class Circle deriving Shape having radius as field and calculate() method to calculate the area. Then, create a class Cylinder deriving Circle having height as field and calculate() method. Take the radius and height values from user as input and calculate areas of circle and cylinder as output.

Test Case:

Input:

Radius: 4

Height: 5

Output:

Area of Circle: 50.27

Area of Cylinder: 226.19