**Code: BCS306A Course: Object Oriented Programming with Java**

**Integrated Lab programs List**

1. For Practice only( Input -using Command Line Arguments)
2. Develop a JAVA program to display the message.
3. Develop a JAVA program to implement basic arithmetic operations.
4. Develop a JAVA program to count and display the number of arguments.
5. Develop a JAVA program to add TWO matrices of suitable order N (The value of N should be read from command line arguments).
6. A class called Employee, which models an employee with an ID, name and salary, is designed as shown in the following class diagram. The method raiseSalary (percent) increases the salary by the given percentage. Develop the Employee class and suitable main method for demonstration.
7. A class called MyPoint, which models a 2D point with x and y coordinates, is designed as follows:
   * Two instance variables x (int) and y (int).
   * A default (or "no-arg") constructor that construct a point at the default location of (0, 0).
   * A overloaded constructor that constructs a point with the given x and y coordinates.
   * A method setXY() to set both x and y.
   * A method getXY() which returns the x and y in a 2-element int array.
   * A toString() method that returns a string description of the instance in the format "(x, y)".
   * A method called distance(int x, int y) that returns the distance from this point to another point at the given (x, y) coordinates
   * An overloaded distance(MyPoint another) that returns the distance from this point to the given MyPoint instance (called another)
   * Another overloaded distance() method that returns the distance from this point to the origin (0,0)

Develop the code for the class MyPoint. Also develop a JAVA program (called   
 TestMyPoint) to test all the methods defined in the class.

1. Develop a JAVA program to create a class named shape. Create three sub classes namely: circle, triangle and square, each class has two member functions named draw () and erase (). Demonstrate polymorphism concepts by developing suitable methods, defining member data and main program.
2. Develop a JAVA program to create an interface Resizable with methods resizeWidth(int width) and resizeHeight(int height) that allow an object to be resized. Create a class Rectangle that implements the Resizable interface and implements the resize methods.
3. Develop a JAVA program to raise a custom exception (user defined exception) for DivisionByZero using try, catch, throw and finally.
4. Develop a JAVA program to create a package named mypack and import & implement it in a suitable class.
5. Write a program to illustrate creation of threads using runnable class. (start method start each of the newly created thread. Inside the run method there is sleep() for suspend the thread for 500 milliseconds).
6. Develop a program to create a class MyThread in this class a constructor, call the base class constructor, using super and start the thread. The run method of the class starts after this. It can be observed that both main thread and created child thread are executed concurrently.