1) Write an addressbook class that manages a collection of Person objects. An addressBook will allow a person to store the details of persons such as name, age, address, profession etc. Throw an exception for age of persons as it can’t go beyond 100.

2) consider the processing of the following mathematical equation:

*p* = sin (*x*) + cos (*y*) + tan (*z*)

As these trigonometric functions are independent operations without any dependencies between them, they can be executed concurrently. Design a java multithreaded code to solve the above equation

3) Write a program to find the average of ‘n’ natural numbers. Use the input through the keyboard during runtime. The program must read the value of n first. If the input n happens to be Zero or negative a suitable User defined Exceptions should be thrown. If it is not possible to convert the input into an integer then NumberFormat Exception must be thrown. After reading n values successfully, we must read the integer values of the array a[]. Each input string must be converted into integer.

4) Design a Java application which reads a number and prints Multiplication table of that number. When the user enters an invalid number (any negative number) it has to raise an exception.