Lab Assignments – VI
MCA Semester III
CG and Java Lab (CS3307)

1. Create a checked exception named *InvalidEntryException,* that will take a String as a parameter in its constructor. When caught and printed as object, i.e., upon invocation of *System.out.println(e)* it must print "InvalidEntryException: " followed by the String. But when *e.getMessage()* will be invoked, it must omit the "InvalidEntryException: " part and return only the String. From main method, throw and catch the exception. Within catch clause, write the two lines *System.out.println(e.getMessage());* followed by *System.out.println(e)* and test your exception.

2. Create a class named *Person,* with properties *name,* and *age.* It must have a constructor taking name and age as parameters, that will set the instance variables properly. The constructor will throw the above created exception if number less than *0* is passed via *age* parameter. The class must have two getter methods each for the two properties, as well. Create some Person objects in main, with some age parameter set less than 0 to check the program.

3. Modify the *InvalidEntryException* to incorporate the cause of the exception as well, i.e., it will have a constructor with two parameters, firstly the String mentioned as it is, and another Throwable object which will be set as its cause within the constructor. Modify the methods created within the Exception to return a modified message that will include the cause as well, i.e., printing the Exception object should now print "InvalidEntryException: " followed by the String, followed by "caused by" and the cause of the Exception that was passed as second parameter. Modify the Person class to incorporate an *IllegalArgumentException("invalid age provided")* as cause of the thrown exception. Check your outputs appropriately.

4. Irrespective of whether exception is thrown or not, a string stating "Person objects created" must always be printed in main, after creating the Person objects. Modify the code accordingly.
   Now, change the *InvalidEntryException* into an unchecked exception. What modifications do you need to perform in your solutions to the above mentioned problems?

5. Create a thread class by extending the Thread class. This thread will print from 1 to 5 with a sleep of 1 second between each print. Create and run the thread from main thread, which will also perform the same task with a sleep of 0.5 seconds between each print. Show one output of the intertwined execution of the two threads.