Core Java Test 2: Lab assignment [Design patterns, Collection, Thread, JDBC] 1Hr

Q1. Implement singleton design pattern, to ensure that a class have only one instance

and provide global point of access to it

While designing singleton pattern consider following factors, what is good progamming

practice about singleton pattern?

1. Eager initialization
2. Static block initialization
3. Lazy Initialization
4. Thread Safe Singleton
5. Serialization issue
6. Cloning issue
7. Using Reflection to destroy Singleton Pattern
8. Enum Singleton

Q2. Write a program that runs 5 threads, each thread randomizes a number

between 1 and 10. The main thread waits for all the others to finish, calculates

the sum of the numbers which were randomized and prints that sum. You will

need to implement a Runnable class that randomizes a number and store it in a

member field. When all the threads have done, your main program can go over

all the objects and check the stored values in each object.

Q3. Write a program to add Customer and find customer by id to a table

field of customer table :id, name,address, phone number, dob.

While coding consider following factors:

1. Implement DAO, DTO pattern

2. Using exception wrappring and rethrowning

3. Create connection factory, read connection details from a property file, in order to

have loose coupling