**Week 3: Practical examination**

***Total Marks: 50***

1. Write a program to produce & consume an integer random number using multithreading.
   1. Create 2 threads producer & consumer.
   2. Consumer thread will wait until Producer thread generates random number.
   3. Producer thread will wait until Consumer thread consumes it. This process will happen infinitely.
   4. Note that we should first produce & then only consumption should happen. Use ReentrantLock to achieve synchronization & inter-threaded communication.

***[Marks: 25]***

1. Write a program to sort Accounts by their balance. Please follow below steps:
   1. Create an Account class with attributes id, name & balance.
   2. Create few account objects.
   3. Create an Account comparator using lambda expression or method reference.
   4. Using TreeSet & comparator, sort account objects & print them using Consumer.

***[Marks: 25]***