Practice Lab Assignment 9

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For this Practice Lab Assignment, you will write programs based on the concept of Multithreading.

Instructions

- There are 4 questions in this assignment.
- Do not share your work with anyone.
- Discuss with TA in case of any further clarifications.

Due Date: Submit your codes on BB before the deadline.

Questions

1. Define two threads which produce an output as follows:
Producer: This thread will generate any random number, say *N*.
Consumer: This thread will write *N* in words. For example, if *N* = 2468, then it will print Two Thousand Four Hundred Sixty Eight.
Write a multithreaded program so that if the producer thread produces *N*, then Consumer thread will print *N* in words.

2. Write a multithreaded program running with a minimum number of threads such that for some integer *n* given by the programmer, first it will print *n* natural numbers, followed by first *n* even number, and finally the first *n* odd numbers.

3. Using a multithreaded program define a thread which will print n natural numbers 1, 2, 3, …., n for any integer n = 1, 2, 3, …, 26. Define another thread which will print any letter A, B, C, ……, Z. Use the two threads write a program to print a sequence of output as follows:

```
1               A
1
2               B
1
2
3               C
1
2
```

3
4 D
….
…..
24
25 Y
1
2
3
…
…
25
26 Z

4. Read any three long integers, say x, y, and z from a user. There will be three threads: T1, T2, and Main thread. The three threads will run concurrently so that Main thread will print “Sleeping for x milliseconds” and then will sleep for x milliseconds. The other two threads will do a similar task for y and z as input. The three threads should run in the order: Main thread, T1, T2.