**Use non-blocking approaches to write the following programs.**

1. A program uses two thread classes to simulate a queuing system in a bank. The first class CallingQueue calls numbers 1 to 10, with a 200ms pause in between each number call. The second method CustomerInLine checks whether a given number is called. The third class BankingQueue is the queue data structure which also contains a driver class. The driver randomly picks an integer between 1 and 10 and produces an output like below when the random number is 4.

Calling for the customer #1

Calling for the customer #2

Calling for the customer #3

Calling for the customer #4

Great, finally #4 was called, now it is my turn

Calling for the customer #5

Calling for the customer #6

Calling for the customer #7

Calling for the customer #8

Calling for the customer #9

Calling for the customer #10

2. A program has a global variable counter and two tasks. One task increments counter by 1 every time it runs. The other task checks the value of counter and stops the program when counter has reached 5000.