**1.Write a Java program which handles Push operation and Pop operation on stack concurrently.**

**2.Write a Java program which first generates a set of random numbers and then determines negative, positive even, positive odd numbers concurrently.**

**3.** Write a simulation program for the fruit market. The farmer will be able to produce different types of fruits (apple, orange, grape, and watermelon), and put them in the market to sell. The market has limited capacity and farmers have to stand in a queue if the capacity is exceeded to sell their fruits. Consumers can come to the market any time and purchase their desired fruits; and if the fruits they want to buy runs out, they are willing to wait until the supply of that kind is ready. (Hint: implementing this market will encounter the producer and consumer problem, and it probably needs multiple buffers for different kinds of fruits).