D.S.A. Lab #3 Assignment

Extend your application by adding the following functionalities:
1. Add an option in the principal menu for lab #3.
2. Add a submenu with the following options:
   a) Quicksort
   b) Stack
   c) Queue

"Quicksort" – implement Quicksort algorithm using Lomuto partition, generate a 20 random items vector, output the generated vector, sort the items using Quicksort and output the sorted vector.

"Stack" – implement a LIFO container data structure ("stack"), push 20 items on the stack, output each item before it is inserted in the stack, pop all items and display each item.

"Queue" – implement a FIFO container data structure ("queue"), enqueue 20 items, output each item before it is enqueued, dequeue all items and print their value.