

Queues Solutions

- Describe the queue data structure
 - A queue is a sequential data structure
 - Elements are added to the queue and removed from it in the order they arrive
 - Only the element at the front of the queue is accessible
- How are elements added to a queue and removed from it?
 - Elements are added at the back of the queue
 - Elements are removed from the front of the queue, one at a time

- Give some examples of operations that can be performed on the C++ Standard queue
 - push, pop, front, back, empty, size
- Give some examples of operations that are not supported
 - Iteration over elements in the queue
 - Searching and sorting the queue

- Write a simple program that creates a queue instance and adds some elements to it
- Print out as much information about the queue as you can
- Remove an element from the queue
- Now print out the information again

- Give an example of a programming problem where a queue would be useful
 - Situations where data needs to be stored temporarily before being processed in arrival order, e.g. stockbroking application
- Give an example of a programming problem where a queue would not be useful
 - Situations which involve operations on more than one item of data at a time, e.g. accountancy application