

# Quiz 6 Data Structures

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1. Which of the following list structures does C++11 support?
  - a) Forward lists.
  - b) Doubly linked lists.
  - c) Circular lists.
  - d) Priority lists.
2. Which two of the following statements best describe a *circular queue*?
  - a) It is suitable as a LIFO buffer.
  - b) It is suitable as a FIFO buffer.
  - c) Queue operations are linear time  $O(N)$ .
  - d) It lends itself to buffering data streams.

3. (Tuples and Pairs in C++11)

Consider the data types:

```
using Pair = std::pair<int, std::string>;  
using Tuple = std::tuple<int, std::string>;
```

Which of the following statements are true with regards to instances of these data types?

- a) We can initialise `Tuple` with `Pair`.
  - b) We can initialise `Pair` with `Tuple`.
  - c) We can assign `Tuple` to `Pair`.
  - d) We can assign `Pair` to `Tuple`.
4. Which of the following statements are true regarding `std::deque`?
    - a) It is open at both ends for insertion and deletion.
    - b) It is a FIFO (first-in, first-out) structure.
    - c) Insertion in the middle of a deque is fast.
    - d) It supports random access iterators.
  5. Which properties does `std::bitset` have?
    - a) Its size can be configured at run-time.
    - b) The number of bits in a bitset cannot be changed.
    - c) Bitsets can be initialised by string literals.
    - d) Bitsets do not throw exceptions.