

10 Data Types and Structures – Part 2 —Answers

Answers

10.1 *C* (last in, first out).

10.2 *A* (first in, first out).

10.3 (a) overflow: trying to push when the stack is already full; (b) underflow: trying to pop when the stack is empty.

10.4 So the front and rear pointers wrap back to the start when they reach the end, reusing the freed cells instead of wasting them.

10.5 To make sure buffered data is actually written to disk (and to release the file for other programs).

10.6 Function calls nest, and the *most recently* called function must return first. A stack is last-in, first-out, so the latest return address is taken off first —exactly the order returning needs.

10.7 Popping gives 4, 3, 2 (LIFO); these are enqueued so the queue's front-to-rear order is 4, 3, 2. Dequeueing one removes the front, so 4 comes out.