**COE 428 QUIZ 6**

**STUDENT NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**STUDENT NUMBER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Which data structure represents a **waiting line** and limits insertions to be made at the back of the data structure and limits removals to be made from the front?
   1. Stack
   2. Queue
   3. Binary tree
   4. Linked list
2. Which of the following statements about stacks is **incorrect**?
   1. Stacks can be implemented using linked lists
   2. Stacks are first in, first out (FIFO) data structures.
   3. New nodes can only be added to the top of the stack.
   4. The last node (at the bottom) of a stack has a null(0) link.
3. Which of the following is not a **dynamic data structure**?
   1. **Linked list**
   2. **Stack**
   3. **Array**
   4. **Binary tree**
4. The most fundamental function for a given **stack data structure** are
5. pop
6. push
7. isEmpty
8. Only first two of the above.
9. All of the above.
10. \_\_\_\_\_\_\_\_\_is a data structure that uses the Last in First Out protocol

a. Linked List  
b. Stack  
c. Array  
d. Queue

1. Which of the statements are incorrect for **XML** code?
2. Begin and End tags must have the same alphanumeric symbol.
3. The end tag always has a “/” character embedded.
4. XML tags cannot be nested.
5. Begin and end tags must be unique in a given XML code.
6. The **incorrect** member function for a stack would be.
7. push()
8. pop()
9. back()
10. top()
11. The worst case time complexity for a **hash table** is.
    1. O(nLogn).
    2. O(n).
    3. O(1).
    4. O(n^2).
12. What does an isEmpty function for given stack data structure perform in your program
    1. Check the system is out of memory.
    2. Empty the entire stack.
    3. Check if the stack is empty.
    4. None of the above.
13. What does the condition "stack underflow" signify for a stack?
    1. A pop operation is performed even though stack is empty.
    2. A push operation is performed when stack is reached its limit.
    3. Stack is upside down.
    4. None of the above.