18CSC350T- Comprehension Test 1

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* Required

LINEAR DATA STRUCTURES

Which of the following is a linear data structure? *

- (●) Array
- ( ) AVL Trees
- ( ) Binary Trees
- ( ) Graphs

When a pop() operation is called on an empty queue, what is the condition called? *

- ○ Overflow
- ◉ Underflow
- ○ Syntax Error
- ○ Garbage Value

Which of the following data structures allow insertion and deletion from both ends? *

- ○ Stack
- ○ Queue
- ◉ Dequeue
- ○ Strings

Which of the following can be done with LinkedList? *

- ◉ Implementation of Stacks and Queues
- ○ Implementation of Binary Trees
- ○ Implementation of data structures that can simulate dynamic arrays
- ○ All the above

What is the information, which a LinkedList's Node must store? *

- ○ The address of the next node if it exits
- ○ The value of the current node
- ◉ Both address of the next node and the value of the current node
- ○ None of the above

Which of the following is not the type of queue? *

- ○ Priority Queue
- ◉ Single-ended Queue
- ○ Double-ended Queue
- ○ Ordinary Queue

What is the output of the following code snippet? *

```
void solve() {
    stack<int> s;
    s.push(1);
    s.push(2);
    s.push(3);
    for(int i = 1; i <= 3; i++) {
        cout << s.top() << " ";
        s.pop();
    }
}
```

- (●) 3 2 1
- ( ) 1 2 3
- ( ) 3
- ( ) 1

Which one of the following is an application of queue data structure *

- ( ) When a resource is shared among multiple consumers
- (●) When data is shared asynchronously
- ( ) Load Balancing
- ( ) All the above

What will be the output of the following code snippet? *

```
void solve() {
    deque<int> dq;
    for(int i = 1; i <= 5; i++) {
        if(i % 2 == 0) {
            dq.push_back(i);
        }
        else {
            dq.push_front(i);
        }
    }
    for(auto x: dq) {
        cout << x << " ";
    }
    cout << endl;
}
```

- (●) 1 2 3 4 5
- ( ) 5 4 3 2 1
- ( ) 1 3 5 2 4
- ( ) 5 3 1 2 4

What is the disadvantage of array data structure? *

- (●) The amount of memory to be allocated should be known beforehand.
- ( ) Elements of an array can be accessed in constant time.
- ( ) Elements are stored in contiguous memory blocks.
- ( ) Multiple other data structures can be implemented using arrays.

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