CS390-2021-12A-12D(MY)   ›
↱ ☑ Tests & Quizzes

Tests & Quizzes

Quiz3

Return to Assessment List

Part 1 of 3 - True or False 4.0 / 9.0 Points

Question 1 of 19 | 1.0 | 1.0 Points

Exception e = new Exception("Woops"); is a legal statement.

✔   ○ A. True
     ○ B. False

Answer Key: True

Question 2 of 19 | 1.0 | 1.0 Points

Is this catch block legal?

```
catch(NoSuchMethodException nsme){
    System.out.println(nsme.getMessage());
    System.exit(0);
}
```

✔   ○ A. True
     ○ B. False

Answer Key: True

Question 3 of 19 | 0.0 | 1.0 Points

When a method might throw an exception but not catch it, the exception class usually must be listed in a 'throw' (keyword) clause for the method.

✖   ○ A. True
     ○ B. False

Answer Key: False

Question 4 of 19 | 1.0 | 1.0 Points

A try block is followed by one or more catch blocks. In this case, always list the catch block for a more specific exception class before the catch block for a more general exception class.

✔   ○ A. True
      ○ B. False

Answer Key: True

Question 5 of 19 | 0.0 | 1.0 Points

Unchecked exceptions must be caught eventually. Otherwise, program execution will terminate.

      ○ A. True
✘   ○ B. False

Answer Key: False

Question 6 of 19 | 1.0 | 1.0 Points

Files that are considered to be strings of characters and that look like characters to your program and to a text editor are called text files. All other files are called binary files.

✔   ○ A. True
      ○ B. False

Answer Key: True

Question 7 of 19 | 0.0 | 1.0 Points

A stack or a queue often serves as the underlying mechanism on which an ADT array is based.

      ○ A. True
✘   ○ B. False

Answer Key: False

Question 8 of 19 | 0.0 | 1.0 Points

Pushing and popping items on a stack and inserting and removing items in a queue all take O(N) time.

✘   ○ A. True

B. False

Answer Key: False

Question 9 of 19 [0.0]   1.0 Points

Deleting a node with one child from a binary search tree involves finding that node's successor

✖   ◯ A. True

       ◯ B. False

Answer Key: False

Part 2 of 3 - Multiple Choice **3.0 / 5.0 Points**

Question 10 of 19 [0.0]   1.0 Points

┌─ Which of the following is true? ──┐

- ✔ ◯ A. In both the stack and the queue, items removed in sequence are taken from increasingly high index cells in the array.

- ✔ ◯ B. The top of a stack corresponds to the front of a queue.

- ✔ ◯ C. The contents of a queue can wrap around, while those of a stack cannot.

- ✖ ◯ D. The pop operation on a stack is considerably simpler than the remove operation on a queue.

Answer Key: C

Question 11 of 19 [1.0]   1.0 Points

┌─ A queue might be used to hold ──┐

- ✔ ◯ A. the items to be sorted in a insertion sort

- ✔ ◯ B. reports of variety of imminent attacks on the star ship Enterprise.

- ✔ ◯ C. keystrokes made by a computer user writing a letter.

- ✔ ◯ D. symbols in a algebraic expression being evaluated.

Answer Key: C

Question 12 of 19 0.0   1.0 Points

When you create a reference to a node in a linked list, it

- ✔ ○ A. can refer to any node you want
- ✔ ○ B. must refer to the node pointed to by 'current'
- ✔ ○ C. must refer to the first node
- ✖ ○ D. must refer to the node pointed to by 'next'

Answer Key: A

Question 13 of 19 1.0   1.0 Points

A binary tree is a search tree if

- ✔ ○ A. every non-leaf node has children whose key values are less than the parent
- ✔ ○ B. in the path from the root to every leaf node, the key of each node is greater than the key of its parent
- ✔ ○ C. a node can have a maximum of two children
- ✔ ○ D. every left child has a key less than the parent and every right child has a key greater than the parent

Answer Key: D

Question 14 of 19 1.0   1.0 Points

A subtree of a binary tree always has

- ✔ ○ A. a root that is a child of the main tree's root
- ✔ ○ B. a root unconnected to the main tree's root
- ✔ ○ C. a sibling with the same number of nodes
- ✔ ○ D. fewer nodes than the main tree

> **Answer Key:** D

Part 3 of 3 - Filling the blanks 4.0 / 6.0 Points

Question 15 of 19 `1.0`   1.0 Points

Access to the nodes in a linked list is usually through the ✖<u>Header (First)</u> node.

Answer Key: first|header

Question 16 of 19 `1.0`   1.0 Points

A special case often occurs for insertion and deletion routines when a list is ✔<u>Empty</u>

Answer Key: empty

Question 17 of 19 `1.0`   1.0 Points

A ✔<u>Hash Function</u> transforms a range of key values into a range of index values.

Answer Key: hash function

Question 18 of 19 `1.0`   1.0 Points

Separate chainning involves the use of a ✔<u>Linked list</u> at each location.

Answer Key: LinkedList| linked list

Question 19 of 19 `0.0`   2.0 Points

Create a method ListNode reverseList(ListNode head) to reverse a Linked List in Java

```
public class ListNode {

    private int data;
    private ListNode next;

    ListNode(int data) {
        this.data = data;
        this.next = null;
    }
}

// standard getters and setters
}
```

A linked list may contain multiple ListNode objects. For example, we can construct the above sample linked list with a loop:

```
ListNode constructLinkedList() {
    ListNode head = null;
    ListNode tail = null;
    for (int i = 1; i <= 5; i++) {
        ListNode node = new ListNode(i);
        if (head == null) {
            head = node;
        } else {
            tail.setNext(node);
        }
        tail = node;
    }
    return head;
}


ListNode reverseList(ListNode head) {

if (head == null) return null;

ListNode prev= null;

ListNode current= head;

While (current != null) {

ListNode nextElement = current.getNext();

current.setNext(prev);

prev=current;

current=nextElement;

}

return prev;

}
```

Model Short Answer:

Solution1.

```
ListNode reverseList(ListNode head) {
ListNode previous = null;
ListNode current = head;
while (current != null) {
ListNode nextElement = current.getNext();
current.setNext(previous);
previous = current;
current = nextElement;
}
return previous;
}
```

Solution 2.

```
ListNode reverseList(ListNode head) {
if (head == null) {
return null;
}
if (head.getNext() == null) {
return head;
}
ListNode node = reverseListRecursive(head.getNext());
head.getNext().setNext(head);
head.setNext(null);
return node;
}
```

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✖

Tue, 14 Dec 2021 20:36:04 CST
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Error uploading image
Upload [Choose File] No file chosen

[Save] [Cancel] Connections [✖]   [Remove]
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$({cmLoader.getString("connection_manager_no_results")}

[Done]