Test 3

Due Aug 6 at 11:59pm **Points** 20 **Questions** 20 **Time Limit** 15 Minutes
Allowed Attempts 2

Instructions

You will get 20 questions for each attempt. You will have 15 minutes to answer the T/F and MC questions on each attempt. You will be able to take the test a second time if you choose. Your score will be that of the last attempt completed.

Take the Quiz Again

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	12 minutes	19 out of 20

Score for this attempt: **19** out of 20
Submitted Aug 6 at 7:18pm
This attempt took 12 minutes.

Question 1

1 / 1 pts

A _____ is used to travel through a linked list and search for data.

- node
- pointer

Correct!

- null pointer
- traversal operator
- None of these

Question 2

1 / 1 pts

How many steps are involved in the process of deleting a node?

- one—delete the node from memory
- Correct! two—remove the node without breaking links, then delete it from memory
- three—create a blank node, remove the node being deleted, insert the blank, then delete the node
- four—create a blank, remove the node being deleted, insert the blank, delete the node, delete the blank
- None of these

Question 3

1 / 1 pts

With pointer variables you can access, but you cannot modify, data in other variables.

- True
- Correct! False

Question 4

1 / 1 pts

The code segment int *ptr; has the same meaning as

- int ptr;
- Correct! int* ptr;

*int ptr;

int ptr*;

None of the above

Question 5

1 / 1 pts

To dereference a structure pointer and simultaneously access a member of the structure, the appropriate operator to use is

an asterisk, *.

Correct!

the structure pointer operator, ->.

the ampersand, &.

the dereference operator, <-.

None of the above

Question 6

0 / 1 pts

Which of the following are potential problems when we use the delete operator on a pointer variable?

inaccessible heap memory

You Answered

dangling pointers

uninitialized pointers

NULL pointers

Correct Answer

- All the above

Question 7

1 / 1 pts

To implement a linked data structure, the `struct` or `class` you use must have at least one pointer variable for each link.

Correct!

- True
- False

Question 8

1 / 1 pts

A linked list class must take care of removing the dynamically allocated nodes. This is done by

- the constructor function

Correct!

- the destructor function
- overriding the removal function
- overloading the memory persistence operator
- None of these

Question 9

1 / 1 pts

Memory cannot be allocated after a program is already running.

Correct!

- True
- False

Question 10

1 / 1 pts

A pointer may be initialized with

Correct!

- the value of a floating-point variable.
- the address of an existing object of the appropriate type.
- the value of a floating-point constant.
- All of the above

Question 11

1 / 1 pts

When a recursive function directly calls itself, this is known as direct recursion.

Correct!

- True
- False

Question 12

1 / 1 pts

When a function A calls a function B, which in turn calls A, we have

Correct!

- indirect recursion.
- direct recursion.

- function cal cycling.
- perfect recursion.
- None of the above.

Question 13

1 / 1 pts

The _____ of recursion is the number of times a recursive function calls itself.

- type
- breadth

Correct!

- depth
- level
- None of the above.

Question 14

1 / 1 pts

A recursive function should be designed to stop making recursive calls when it reaches its

- closing curly brace.
- last parameter.
- return statement.

Correct!

- base case.
- None of the above.

Question 15

1 / 1 pts

A _____ function is a function that calls itself.

- data validation
- static
- recursive

Correct!

- dynamic
- None of the above.

Question 16

1 / 1 pts

Suppose that a recursive function with integer parameter n has a base case of 0, and for each non-base case, the function makes a recursive call with argument n+1. If the function is initially called with an actual argument of n = 3, the function call will

- return after a chain of 2 recursive calls.
- cause an infinite chain of recursive calls.

Correct!

- return after a chain of 3 recursive calls.
- return after a chain of 4 recursive calls.
- None of the above.

Question 17

1 / 1 pts

The base case of a recursive function

- is 0.

- is 1 / (depth * 3.1415).
- is 1.
- is depth / 2.

Correct!

- (•) depends upon the problem being solved.

Question 18

1 / 1 pts

A recursive function cannot call a function other than itself.

- True

Correct!

- (•) False

Question 19

1 / 1 pts

Any algorithm that can be coded with recursion can also be coded using a loop.

Correct!

- (•) True
- False

Question 20

1 / 1 pts

The function

```
int fact(int k) {
    return k*fact(k-1);
    if (k==0) return 1;
}
```

works for all non-negative values of k, but not for negative numbers.

returns the value 1 if it is passed a value of 0 for the parameter k.

Correct!

does not correctly handle its base case.

computes the factorial on an integer k passed to it as parameter.

None of the above.

Quiz Score: **19** out of 20