

Assessment Test

Started: Jan 16 at 4:56pm

Quiz Instructions

This is a simple assessment test for testing students' general programming and computer concepts, so that the findings can help the instructor adjust the pace of the instruction and approach to accommodate different student programming ability levels.

Question 1

1 pts

When using the call by reference method of passing arguments to a function, the called function can change the value of the original variable from the caller.

- ☒ True
- ☐ False

Question 2

1 pts

When using the call by value method of passing arguments to a function, the value of the variable is passed to the called function. It suggests that the variable was never given to the called function.

- ☐ True
- ☒ False

Question 3

1 pts

A global variable's lifespan is a stack-based type of memory allocation.

- ☐ True
- ☐ False

Question 4

1 pts

There is no need to pass parameters to a function from another, if parameters are global variables.

-
- ☐ True
-
- ☐ False

Question 5

1 pts

Which of the following will you choose to define a variable for the age of your house if a programming language supports short, integer, and long integer?

-
- ☐ short integer
-
- ☐ integer
-
- ☐ long integer

Question 6

1 pts

In writing a loop with the condition $i \leq 1000$, imagine i starts at 1 and increases by 5 for each iteration. What is the value of i after the loop ends?

-
- ☐ 1000
-
- ☐ 1001
-
- ☐ 1005
-
- ☐ 995

Question 7

1 pts

The number of arguments passed to a function must be the same as the number of parameters needed by the called function.

-
- ☐ True
-
- ☐ False

Question 8

1 pts

What could go wrong with the following code, which looks for the largest element in an array?

```
public static int getMax(int [] list) {  
  
    int max = list[0];  
  
    for (int i = 1; i < list.length; i++) {  
  
        if (list[i] > max)  
  
            max = list[i];  
  
    }  
  
    return max;  
  
}
```

- ☐ list's length is too big
- ☐ list has elements with unknown values
- ☐ list is empty
- ☐ All elements are the same
- ☐ None of them

Question 9

1 pts

Most programming languages allow integers and strings; will the comparison `123 == "123"` be true or false in Java/C/C++/Python?

- ☐ True
- ☐ False

Question 10

1 pts

A global variable should be avoided in your program because

- ☐ Slower

☐ Memory allocated even they are not used in your program

☐ Can be changed accidentally.

☐ Name conflicts

☐ Difficult to maintain

Question 11

1 pts

If you wish to change the values of three variables: a, b, and c so that a has the lowest value, b has intermediate value, and c has the highest value. How many if-statements do you need if you cannot use loops and library or custom functions in your program?

☐ 1

☐ 2

☐ 3

☐ 4

Question 12

1 pts

If you need to print an integer backwards, such as 1234 and 4321. Can you write code to accomplish this without relying on specific library functions, arrays, or any other library data structures like lists, vectors, etc?

☐ True

☐ False

Question 13

1 pts

If you want to print all multiples of 4 from 4 to 1000, simply create a loop with a condition $i \leq 1000$, assuming i starts at 4 and i will be multiplied by 4 for each iteration

☐ True

☐ False

Question 14

1 pts

In most programming languages, reference types are heap-based, which requires the programmer to deallocate the memory in C++. In other languages, such as Java, the memory will be deallocated when the function that declared those reference types finishes.

-
- ☐ True
-
- ☐ False

Question 15

1 pts

When you compare two reference types in most programming languages using an equal operator like ==, it compares their addresses but not their actual contents

-
- ☐ True
-
- ☐ False

Question 16

1 pts

When one reference type is assigned to another using an assignment operator like =, the result is that two variables refer to the same object or memory address.

-
- ☐ True
-
- ☐ False

Question 17

1 pts

Most programming languages have for-loops and while-loops, and you may use either to achieve the same result.

-
- ☐ True
-
- ☐ False

Question 18

1 pts

If your programming language does not allow the do-while loop, you cannot achieve the same result with a while-loop.

- ☐ True
- ☐ False

Question 19

1 pts

Most programming languages only allow a function to return a single value, however you can get around this by returning an array of values.

- ☐ True
- ☐ False

Question 20

1 pts

What factors should you consider when designing a function?

- ☐ The function's purpose
- ☐ The function's inputs
- ☐ The function's output
- ☐ Should optimize the function so that it can perform more tasks without calling other functions
- ☐ The side-effect of the function

Question 21

1 pts

Most modern programming languages, such as JavaScript and Python, do not require you to specify data type when defining a variable because the interpreter will identify data type when an actual value is assigned to it.

- ☐ True
- ☐ False

Question 22	1 pts
<p>The advantage of compiled programming languages is that they can run quicker because, once compiled into native machine language, they may run natively without the need for a runtime or interpreter, such as Java or Python.</p>	
<div><div><input type="radio"/> True</div><div><input type="radio"/> False</div></div>	

Question 23	1 pts
<p>The computer programming language is a machine language that computer hardware can understand?</p>	
<div><div><input type="radio"/> True</div><div><input type="radio"/> False</div></div>	

Question 24	1 pts
<p>In Java or Python, "bytecode" refers to machine language that a computer hardware can understand</p>	
<div><div><input type="radio"/> True</div><div><input type="radio"/> False</div></div>	

Question 25	1 pts
<p>How many iterations does it take to sort an unsorted list of N floating-point values in reverse order using the Bubble sort algorithm?</p>	
<div><div><input type="radio"/> N times</div><div><input type="radio"/> 2 N times</div><div><input type="radio"/> N * N times</div></div>	

☐ None of them

Question 26

1 pts

How many iterations are required to add 1 to each element of a two-dimensional array of N rows and N columns?

☐ 2N

☐ N

☐ N * N

☐ N log N

Question 27

1 pts

How many iterations does it take to add 1 to each element on a diagonal of a two-dimensional array with N rows and N columns?

☐ 2 N

☐ N

☐ N * N

☐ Unknown

Question 28

0 pts

Please provide a list of the programming courses you have completed in the past. Additionally, what was your undergraduate degree program?

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Question 29

0 pts

Can you share your total years of professional programming experience and the specific applications and programming languages you've used in that timeframe?

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0 words

Question 30

0 pts

Have you ever learned or used Python? If so, did you write Python code using an object-oriented approach?

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