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Computer Programming Tools

Your score: **80** (↑8) **Beginner**

Keep going! At a beginner level, you have a working knowledge and are able to pass beginner content. You have limited experience applying it.



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Other Programming Languages

Your score: **32** (↑32) **Conversant**

Keep going! At a conversant level, you have familiarity with the vocabulary and are able to pass easy content.



1. What does a compiler do?

1 / 1 point

- ☒ Generates executable machine code from source code in a high-level language
- ☐ Automatically formats source code in a readable way
- ☐ Combines multiple files into a single program
- ☐ Tests the basic functionality of the code

✔ **Correct**
That's correct!

2. What is the scope of a variable?

1 / 1 point

- ☐ The variable declaration
- ☐ The instructions where the variable is assigned a value
- ☒ Region of a program where the variable can be accessed
- ☐ The set of values to which a variable can be assigned

✔ **Correct**
That's correct! A variable's scope defines the parts of a program that can "see" that variable.

3. What is Garbage Collection?

1 / 1 point

- ☐ Reorganization of source code to reduce the number of function calls
- ☒ Deallocation of objects which are no longer in use
- ☐ Reorganization of source code to improve encapsulation and understandability
- ☐ Deletion of unused segments of code

✔ **Correct**
That's correct!

4. What does an interpreter do?

1 / 1 point

- ☒ Converts instructions in a high-level language into machine code at runtime
- ☐ Processes user inputs
- ☐ Reads files in a given data format
- ☐ Produces output data corresponding to each input region

✔ **Correct**
That's correct!

5. **True or False:**

1 / 1 point

Concurrency always results in some performance improvement.

- ☐ True
- ☒ False

✓ **Correct**

That's correct! Concurrency enables parallelism, but if parallel hardware is not present, speedup will not be achieved because multiple tasks cannot execute at the same time.

6. The type of a variable determines which of the following aspects of that variable? (Select ALL that are correct.)

1 / 1 point

☒ Size in memory

✓ **Correct**

Correct! In declaring a variable's type, the programmer specifies the amount of memory that needs to be allocated for that variable.

☒ Operations that can be performed on the variable

✓ **Correct**

Correct! The variable's type defines the nature of the variable along with the types of operations that can be performed on it.

☒ The data that can be contained in the object

✓ **Correct**

Correct! The variable's type specifies the nature of the data that can be contained (for example, integer vs. floating point number).

☐ The number of characters in the variable's name

7. What is the name of the package from which an executable program is generated?

1 / 1 point

- ☐ fmt
- ☐ os
- ☐ init
- ☒ main

✓ **Correct**

That's correct!

8. Which of the following is an example of a short variable declaration?

1 / 1 point

- ☒ x := 2.3
- ☐ var x int = 10
- ☐ var x int
- ☐ x = 2.3

✓ **Correct**

That's correct!