

Name _____

[/test-bank-an-introduction-to-programming-with-c-8e-zak](#)

Class _____

Date _____

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chapter 1

Indicate whether the statement is true or false.

1. The main reason why high-level languages were a vast improvement over machine and assembly languages is because they allow the programmer to use instructions that more closely resemble the English language.

- a. True
- b. False

2. The selection structure is also referred to as an iteration.

- a. True
- b. False

3. A compiler translates instructions line by line as the program is running.

- a. True
- b. False

4. The repetition structure has a true path and a false path.

- a. True
- b. False

5. There is one universal machine language used by computers.

- a. True
- b. False

6. Assembly language requires a programmer to enter the program using 1s and 0s.

- a. True
- b. False

7. An interpreter translates all of a program's high-level instructions into machine language before executing the program.

- a. True
- b. False

8. Mnemonics are a special number system used by assembly languages.

- a. True
- b. False

9. There are two digits in the machine language system.

- a. True
- b. False

10. In object-oriented programming, an object can be used in more than one program; often with little to no modification.

- a. True
- b. False

Indicate the answer choice that best completes the statement or answers the question.

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11. What are program instructions written in 1s and 0s called?

- | | |
|----------------------------|-----------------------------|
| a. assembly language | b. machine code |
| c. procedure-oriented code | d. object-oriented language |

12. The choice of whether to turn left or right at a fork in the road is an example of which type of structure?

- | | |
|-------------|--------------|
| a. mnemonic | b. sequence |
| c. decision | d. iteration |

13. With whom should a programmer have extensive interaction before converting a solution to a problem into a computer program?

- | | |
|--------------------|-----------------------|
| a. user | b. language developer |
| c. compiler vendor | d. system engineer |

14. What type of structure is the following set of statements an example of?

```
if time-of-day is greater than noon
    set afternoon access permissions
else
    set regular access permissions
end if
```

- | | |
|---------------|--------------|
| a. iteration | b. sequence |
| c. repetition | d. selection |

15. What type of structure is the following set of statements an example of?

```
while not end of file
    read a line
end while
```

- | | |
|--------------|---------------|
| a. selection | b. repetition |
| c. decision | d. sequence |

16. Which of the following translates program instructions line by line as the program is running?

- | | |
|----------------|--------------|
| a. assembler | b. algorithm |
| c. interpreter | d. compiler |

17. C++, Visual Basic, C#, Python, and Java are all examples of what kind of language?

- | | |
|----------------|-------------|
| a. assembly | b. machine |
| c. programming | d. mnemonic |

18. C++, Visual Basic, Java, and C# are examples of what type of language that can be used to create both procedure-oriented and object-oriented programs?

- | | |
|-------------|---------------|
| a. assembly | b. machine |
| c. compiler | d. high-level |

19. What do programs written in assembly language require to convert the assembly language instructions into machine language?

- | | |
|----------------|--------------|
| a. interpreter | b. compiler |
| c. assembler | d. converter |

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20. An example of an instruction written in machine language would be ____.
- a. sum = num1 + num2
 - b. 0000 0101 1100 0000
 - c. ADD bx, ax
 - d. repeat 5 times
21. What is the name for the basic structure that controls the overall flow of a program's logic?
- a. procedure
 - b. control
 - c. directional
 - d. algorithmic
22. Which statement is an example of a repetition structure?
- a. if (Ginger is on the bench)
 - b. repeat (2 times)
 - c. sit down
 - d. walk forward
23. Which of the following translates all of a program's high-level instructions before running the program?
- a. heuristic
 - b. GUI
 - c. interpreter
 - d. compiler
24. What is the output of the following algorithm if AMOUNT is equal to \$200?
- ```
If AMOUNT is greater than $500
 print "That's too much."
Else if AMOUNT is greater than $200
 print "Still too much"
Else if AMOUNT is greater than $100
 print "That's about right"
Else
 print "Amount is too low."
End if
```
- a. That's too much
  - b. That's about right
  - c. Still too much
  - d. Amount is too low
25. After coding a program, the programmer should perform which task before releasing it to the user?
- a. ask the user to approve the machine code
  - b. write a user manual
  - c. assemble the program with an interpreter
  - d. test the program with sample data
26. Which type of structure do all programs use?
- a. sequence
  - b. selection
  - c. repetition
  - d. variable
27. Which of the following is an example of an instruction written in assembly language?
- a. sum = num1 + num2
  - b. 0000 0101 1100 0000
  - c. MUL bx, ax
  - d. repeat 5 times
28. Which of the following is a language typically used to create procedure-oriented programs?
- a. C#
  - b. Python
  - c. COBOL
  - d. Java
29. Which structure do you use every time you drive your car and approach an intersection?

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- |               |              |
|---------------|--------------|
| a. iteration  | b. sequence  |
| c. repetition | d. selection |

30. With what type of program does the programmer focus on structures that represent screen elements such as check boxes and buttons or structures that represent real world items such as an employee or time card?

- |                       |                     |
|-----------------------|---------------------|
| a. assembly language  | b. machine language |
| c. procedure-oriented | d. object-oriented  |

31. Which type of structure makes a decision based on one or more conditions?

- |              |              |
|--------------|--------------|
| a. looping   | b. selection |
| c. iteration | d. question  |

32. In a computer program, which type of logic structure directs the computer to process the program instructions one after another, in the order listed in the program?

- |               |              |
|---------------|--------------|
| a. sequence   | b. selection |
| c. repetition | d. variable  |

33. An accountant that is part of a programming team working on a program that requires accounting experience is an example of which of the following?

- |                          |                          |
|--------------------------|--------------------------|
| a. drag                  | b. subject matter expert |
| c. top-level coordinator | d. engineer              |

34. What are program instructions that utilize mnemonics called?

- |                                |                         |
|--------------------------------|-------------------------|
| a. assembly code               | b. machine language     |
| c. procedure-oriented language | d. object-oriented code |

35. What is another name for a repetition structure?

- |                       |                          |
|-----------------------|--------------------------|
| a. loop structure     | b. sequence structure    |
| c. decision structure | d. algorithmic structure |

36. How many different states do the switches in machine language have?

- |      |       |
|------|-------|
| a. 1 | b. 2  |
| c. 8 | d. 16 |

37. Which of the following is a set of step-by-step instructions that accomplish a task?

- |              |             |
|--------------|-------------|
| a. algorithm | b. mnemonic |
| c. heuristic | d. loop     |

38. Give at least three examples of a procedure-oriented language, and at least three examples of an object-oriented language.

39. Is it necessary for the programmer to meet with the user? Why or why not? Explain your answer.

40. In your own words, describe the terms programs, programmers, and programming languages. What are the key

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differences?

41. What are the primary differences between procedure-oriented programs and object-oriented programs?
42. What is the role of a subject matter expert on a programming team?
43. What is the primary difference between a compiler and an interpreter?
44. What characteristics do both computer programmers and software engineers share?
45. What are the three basic logic structures used by computer programs? Describe each.

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**Answer Key**

1. True
2. False
3. False
4. False
5. False
6. False
7. False
8. False
9. True
10. True
11. b
12. c
13. a
14. d
15. b
16. c
17. c
18. d
19. c
20. b
21. b
22. b
23. d
24. b

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25. d
26. a
27. c
28. c
29. d
30. d
31. b
32. a
33. b
34. a
35. a
36. b
37. a
38. Procedure-oriented languages: COBOL, BASIC, and C.  
Object-oriented languages: C++, Visual Basic, Java, Python, and C#.
39. Absolutely. The programmer will initially meet with the user to determine the exact problem and to agree on a solution. After the programmer and user agree on the solution, the programmer begins converting the solution into a program. During the conversion stage, the programmer meets periodically with the user to determine whether the program fulfills the user's needs and to refine any details of the solution. The creation of a good computer solution to a problem requires a great deal of interaction between the programmer and the user.
40. The directions given to a computer are called programs. The people who write programs are called programmers. Programmers use a variety of special languages, called programming languages, to communicate with the computer.
41. With procedure-oriented programs the programmer concentrates on the major tasks that the program needs to perform. With object-oriented programs the programmer focuses on the objects that the program can use to accomplish its goal.
42. Programming teams often contain subject matter experts, who may or may not be programmers. These individuals bring expertise to the type of program being written that the programmer may not possess. For example, an accountant might be part of a programming team working on a program that requires accounting expertise.
43. A compiler translates all of a program's high-level instructions before executing the program, whereas an interpreter translates the instructions line by line as the program is executing.

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44. Programmers and software engineers need to have strong problem-solving and analytical skills, as well as the ability to communicate effectively with team members, end users, and other non-technical personnel.

45. Sequence, selection, and repetition.

You use the sequence structure each time you follow a set of step-by-step instructions, in order, from beginning to end.

The selection structure, also called the decision structure, indicates that a decision (based on some condition) needs to be made, followed by an appropriate action derived from that decision.

The repetition structure indicates that one or more instructions need to be repeated until some condition is met.