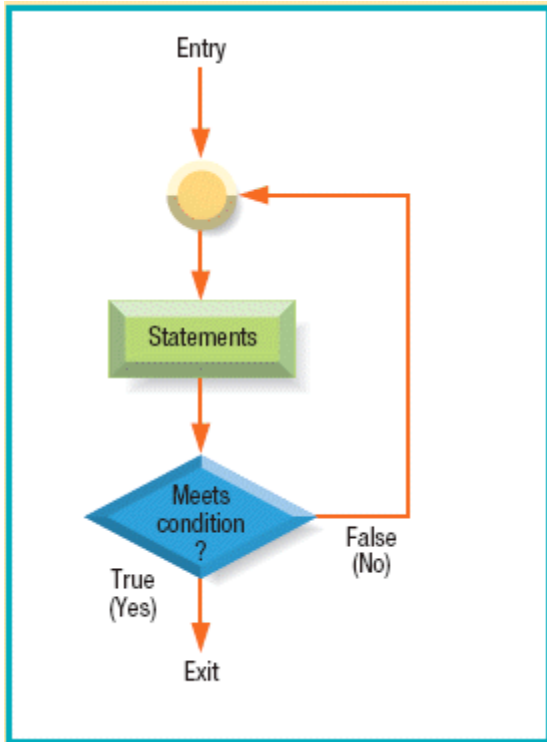


CIT-15 Chapter 13 Study Guide

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- ___ 1. Two of the most significant approaches to programming are procedural programming and ____.
- a. aspect-oriented programming
 - b. object-oriented programming
 - c. function programming
 - d. virtual programming
- ___ 2. ____ programming focuses on the step-by-step instructions that tell the computer what to do to solve a problem.
- a. Object-oriented
 - b. Aspect-oriented
 - c. Procedural
 - d. Declarative
- ___ 3. In a computer program, ____ are named memory locations that are defined for that particular program and are used to store the current value of data items used in the program.
- a. cells
 - b. variables
 - c. objects
 - d. buses
- ___ 4. ____ values are values that represent one of two states—yes (true) or no (false).
- a. Boolean
 - b. Character
 - c. String
 - d. Real
- ___ 5. ____ is a software development approach that continues the programming trend of breaking a software program into small and more manageable pieces that overlap in functionality as little as possible.
- a. Object-Oriented Programming (OOP)
 - b. Structured programming
 - c. Object Programming (OP)
 - d. Aspect-oriented programming (AOP)
- ___ 6. According to IBM, ____ has yielded significant benefits in the quality of the code and the speed with which programmers can write programs.
- a. SDLC
 - b. OOP
 - c. PDLC
 - d. AOP
- ___ 7. ____ is the first phase of the PDLC.
- a. Program coding
 - b. Program design
 - c. Problem analysis
 - d. Program debugging
- ___ 8. In the program design step of the PDLC, the specifications developed during the problem analysis step are used to develop a(n) ____ for the program.
- a. flowchart
 - b. object
 - c. algorithm
 - d. module
- ___ 9. Program ____ use graphic symbols and relational operators (such as < for “less than” and = for “equal to”) to portray the sequence of steps needed to fulfill the logic in that program, module, or method.
- a. structure charts
 - b. flowcharts
 - c. pseudocode
 - d. models
- ___ 10. A ____ is used to illustrate when, how, and in what order the statements in a computer program, module, or method are performed.
- a. selection control structure
 - b. sequence control structure
 - c. control structure
 - d. repetition control structure
- ___ 11. A ____ is simply a series of statements that follow one another. After the first statement has been carried out completely, the program control moves to the next statement, and so forth.
- a. selection control structure
 - b. sequence control structure
 - c. control structure
 - d. repetition control structure



- ___ 12. The figure above shows the ___ control structure.
- | | |
|-------------|-----------------|
| a. do until | c. if-then-else |
| b. do while | d. case |
- ___ 13. With the ___, the instructions in the loop are repeated as long as a certain condition is false.
- | | |
|---------------------------|--------------------------------|
| a. do while structure | c. selection control structure |
| b. if-then-else structure | d. do until structure |
- ___ 14. In a(n) ___ check, the programmer “walks” through the program design, keeping track of the values of any loop counters and other variables in a tracing table to ensure the program does what it is intended to do.
- | | |
|---------|----------|
| a. desk | c. alpha |
| b. line | d. beta |
- ___ 15. A(n) ___ occurs when a do while condition never becomes false or a do until condition never becomes true.
- | | |
|--------------------|----------------------|
| a. repetition loop | c. if-then-else loop |
| b. coded loop | d. infinite loop |
- ___ 16. New trends in programming such as Microsoft’s ___ are helping to bridge different platforms and programming languages.
- | | |
|-----------------|-------------------|
| a. Visual Basic | c. .NET framework |
| b. ActiveX | d. SQL |
- ___ 17. ___ are notes within the actual program code that identify key features and steps of the program but that are written in such a way that the computer knows to ignore them when the program is executed.
- | | |
|--------------|----------|
| a. Comments | c. Bugs |
| b. Variables | d. Loops |
- ___ 18. The first official recorded use of the word *bug* in the context of computing is associated with the temporary failure of the ___ computer.
- | | |
|------------|-------------|
| a. Mark II | c. UNIVAC |
| b. ENIAC | d. Apple II |

- ___ 19. A(n) ___ is designed for a specific programming language and translates programs written in that language into machine language so it can be executed.
- a. compiler
 - b. macro
 - c. generator
 - d. decoder
- ___ 20. Rather than creating a complete object module for a program, a(n) ___ reads, translates, and executes the source program one line at a time.
- a. compiler
 - b. interpreter
 - c. assembler
 - d. generator
- ___ 21. A(n) ___ occurs when the programmer has not followed the proper rules of the programming language being used.
- a. logic error
 - b. assembly error
 - c. syntax error
 - d. coding error
- ___ 22. ___ errors occur when a formula is written incorrectly, when a mistake is made with a decision condition, or when the wrong variable name is used.
- a. Syntax
 - b. Compiler
 - c. Logic
 - d. Debugging
- ___ 23. Programmers often use temporary dummy print statements—print statements that are temporarily inserted into the code—to help locate a ___.
- a. syntax error
 - b. rules error
 - c. compile-time error
 - d. logic error
- ___ 24. Programs created for mass distribution often have two stages of testing: an internal onsite test and one or more rounds of outside tests (called ___).
- a. benchmark tests
 - b. bug tests
 - c. alpha tests
 - d. beta tests
- ___ 25. ___ is a broad term to describe creating and managing an application throughout its entire lifecycle—from design through testing.
- a. Rapid application development (RAD)
 - b. Program development life cycle (PDLC)
 - c. Application Lifecycle Management (ALM)
 - d. Application software development life cycle (ASDLC)
- ___ 26. A(n) ___ is a software program that helps programmers develop software.
- a. application generator
 - b. report generator
 - c. form generator
 - d. data generator
- ___ 27. ___ create the forms or screens used to input data into a program or database.
- a. Form generators
 - b. Report generators
 - c. Application generators
 - d. Data generators
- ___ 28. The earliest programming languages—machine language and assembly language—are referred to as ___.
- a. low-level languages
 - b. third-generation programming languages (3GLs)
 - c. procedural programming languages
 - d. interpreted languages
- ___ 29. Fourth-generation languages (4GLs) are also sometimes called ___.
- a. procedural programming languages
 - b. very-high-level languages
 - c. high-level languages
 - d. interpreted languages
- ___ 30. Fourth-generation languages are commonly used to access ___.
- a. documents
 - b. object code
 - c. databases
 - d. source code
- ___ 31. ___, which dates back to 1954, was designed by scientists and is oriented toward manipulating formulas for scientific, mathematical, and engineering problem solving applications.

- a. COBOL
 - b. Pascal
 - c. BASIC
 - d. FORTRAN
- ___ 32. ___ was created to fill the need for a teaching tool to encourage structured programming.
- a. FORTRAN
 - b. Java
 - c. COBOL
 - d. Pascal
- ___ 33. ___ was designed as an easy-to-learn beginner’s language that would work in a friendly, nonfrustrating programming environment.
- a. FORTRAN
 - b. COBOL
 - c. BASIC
 - d. Java
- ___ 34. ___ are small programs that are designed to be inserted into Web pages and run using a Java-enabled Web browser.
- a. Java zines
 - b. Java applets
 - c. Java bytecodes
 - d. Java VMs
- ___ 35. Java is currently one of the most popular programming languages and has replaced ___ as the programming language used for the computer science Advanced Placement exam taken by high school students to earn college credit.
- a. C++
 - b. Visual Basic
 - c. BASIC
 - d. C

Case-Based Critical Thinking Questions

Case 13-1

The Rainbow Trout Company specializes in developing software that is useful to amateur and professional fishermen. They often work on projects with constantly changing requirements.

- ___ 36. The Rainbow Trout Company uses the ___ approach, which emphasizes teams of people working closely together, which provides for continuous learning and adaptation as the project is developed.
- a. expert programming
 - b. rapid application development
 - c. agile software development
 - d. team development
- ___ 37. To allow everyone, not just the original programmer, to understand the source code of a program, the Rainbow Trout Company follows a set of ___—a list of rules designed to standardize programming styles.
- a. UMLs
 - b. flowcharts
 - c. RADs
 - d. coding standards
- ___ 38. The Rainbow Trout Company maintains a database of clients. To search through this database, they use ___, a 4GL.
- a. SQL
 - b. COBOL
 - c. C
 - d. Java

Case-Based Critical Thinking Questions

Case 13-2

Kelly is a college sophomore majoring in computer science. She is interested in gaining exposure to the most useful and current programming languages and techniques.

- ___ 39. During the summer, Kelly will be writing a compiler as part of a research project. To prepare, she is learning ___, a functional language.
- a. C
 - b. Java
 - c. Visual Basic
 - d. Scheme

- _____ 40. One of the languages that Kelley is learning is _____ an object-oriented programming language that is commonly used to write Web applications.
- a. C
 - b. Java
 - c. Visual Basic
 - d. COBOL