› Review Questions

Concepts

1. Collaboration can provide which of the following?
   (A) Several points of failure
   (B) Clean data
   (C) Duplication of effort
   (D) Better products resulting from different perspectives

2. What is a benefit of using a software development design process?
   (A) By following the process, the code will work the first time.
   (B) Using the process, the code will be efficient regardless of a programmer's experience.
   (C) The code will be developed in 50% less time using a development/design process.
   (D) The process is iterative, resulting in a better program.

3. Which of the following is not a common step in many software development processes?
   (A) Designing
   (B) Investigating
   (C) Identifying patterns
   (D) Testing

4. What do using surveys, interviews, and observations identify?
   (A) Device specifications
   (B) Program errors
   (C) User requirements
   (D) Valid program input

5. Why is documentation important?
   (A) To explain a program's purpose and functionality
   (B) To make it easier to understand and modify the code later
   (C) To be useful for training people on how to use the program
   (D) All of the above

6. Why should boundary values be tested?
   (A) Testing boundary values is not necessary.
   (B) To ensure they are identified as errors
   (C) To ensure warning messages are sent about the boundaries
   (D) To ensure the program does not include too few or too many elements

7. What is a crucial step in an iterative development process?
   (A) Feedback
   (B) Preparing prototypes
   (C) Meeting deadlines
   (D) Meeting budget constraints

8. What is a benefit of understanding a problem before coding?
   (A) A better designed program is created to handle all the needed functionality.
   (B) Less testing is required.
   (C) Little or no documentation is then needed.
   (D) Users will not need training to use the program.

9. Which phase in the development process determines how to meet the application requirements?
   (A) Analysis
   (B) Design
   (C) Programming
   (D) Testing

10. How do event-driven programs progress?
    (A) They run in a linear fashion from start to end
    (B) The code executes sequentially
    (C) The code executes when an action occurs that it is programmed to recognize
    (D) The code runs iteratively

Application of Concepts

11. What is one way to debug a program?
    (A) Add temporary print messages to determine program values.
    (B) Test with different data values each time.
    (C) Document the error in the user guide and online help text.
    (D) Override the error with the correct value.

12. Which development process breaks the requirements down into small modules and adds the code, once working, to the project as a whole?
    (A) Additive
    (B) Incremental
    (C) Iterative
    (D) Spiral

13. What is one way to ensure testing is thorough?
    (A) Create expected results prior to testing.
    (B) Create a diagram of the program's processing.
    (C) Execute the code to ensure it runs.
    (D) Add temporary DISPLAY statements to see intermediate results in the program.

14. What type of error breaks the rules of the programming language, like a grammatical error?
    (A) Logic error
    (B) Overflow error
    (C) Runtime error
    (D) Syntax error

15. If your program executes without errors, but the results are incorrect, what type of error do you likely have?
    (A) Logic error
    (B) Round-off error
    (C) Runtime error
    (D) Syntax error

16. Which method of finding errors is most useful to identify logic errors?
    (A) Creating new test cases
    (B) Handtracing
    (C) Rerunning the program with different inputs to see the impact on outputs
    (D) Running a simulation

17. Attempting to access an invalid index in a list results in what type of error?
    (A) Logic error
    (B) Overflow error
    (C) Runtime error
    (D) Syntax error

18. What is an example of event-driven programming?
    (A) Prompting a user to type in a response
    (B) Using constants for data values in place of variables
    (C) A mobile device that orients to a new position
    (D) A microphone transmitting audio data to a program