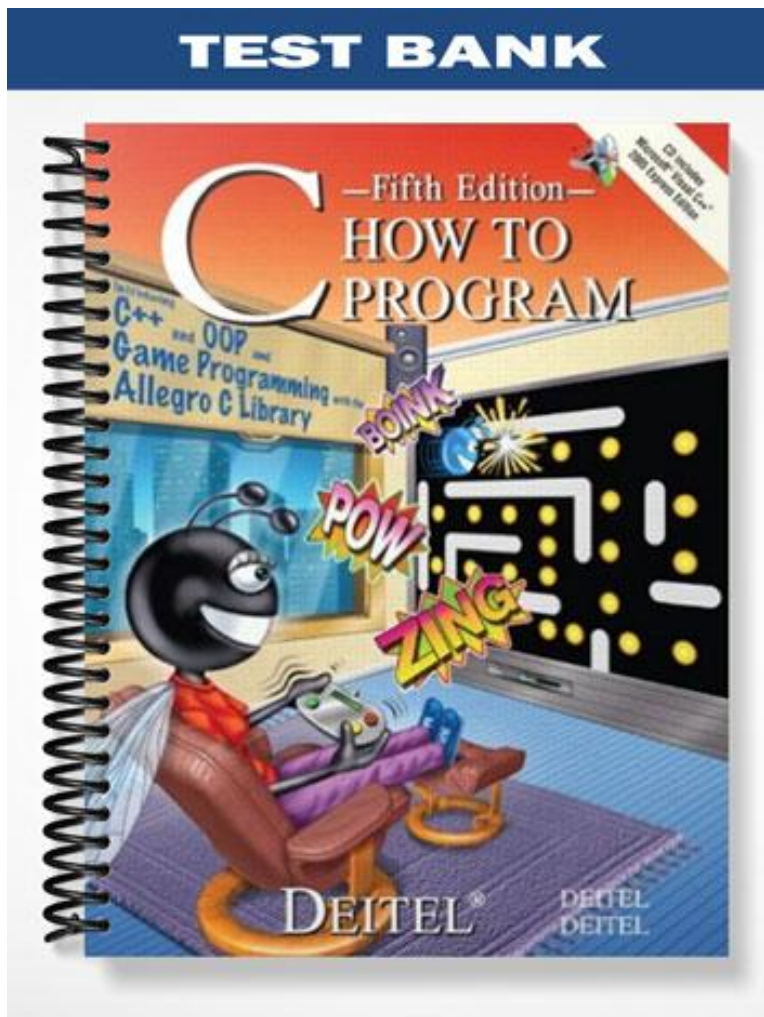


TEST BANK



2.1 Introduction

2.2 A Simple Program: Printing a Line of Text

2.1 Lines beginning with the _____ let the computer know that the rest of the line is a comment.

- (a) /*
- (b) **
- (c) REM
- (d) <<

ANS: (a)

2.2 Which of the following must every C++ program have?

- (a) main
- (b) #include
- (c) //
- (d) <stdio.h>

ANS: (a)

2.3 Every statement in C must end with a

- (a) period (.)
- (b) semicolon (;)
- (c) colon (:)
- (d) backslash (/)

ANS: (b)

2.4 Which of the following is not a valid escape sequence?

- (a) \n
- (b) \\
- (c) \~
- (d) \"

ANS: (c)

2.5. Which statement about comments is false?

- a) Comments begin and end with /* and */ , respectively.
- b) Programmers insert comments to document programs and improve program readability.
- c) Comments do not cause any machine language object code to be generated.
- d) Lengthy comments can cause poor execution-time performance.

ANS: (d)

2.6. Lines beginning with a # are processed

- a) at execution time
- b) at compile time
- c) at preprocessor time
- d) at postprocessor time

ANS: (c)

2.7. Which of the following statements about the inclusion of `<stdio.h>` is false?

- a) It is required.
- b) This header file contains information and declarations used by the compiler when compiling standard input/output library functions such as `printf`.
- c) This header file contains information that helps the compiler determine if calls to library functions have been made correctly.
- d) This header helps locate bugs in your program at compile time, rather than at execution time (when errors are usually more costly to correct).

ANS: (a)

2.8. In the line

```
int main()
```

the parentheses indicate that `main` is a program building block called a

- a) module
- b) statement
- c) method
- d) function

ANS: (d)

2.9. The pair of braces that delineate the body of `main` and the portion of the program between these braces is called a _____.

- a) function
- b) block
- c) statement
- d) header

ANS: (b)

2.10. Which of the following is not a synonym for a C string?

- a) message
- b) character string
- c) character
- d) literal

ANS: (c)

2.11. The following line is most properly an example of a _____.

```
printf( "Welcome to C!" )
```

- a) function
- b) block
- c) statement
- d) header

ANS: (c)

2.12. In a `printf`, a backslash is printed by enclosing in quotes

- a) \
- b) \\
- c) /\
- d) //

ANS: (b)

2.13. A linked program is often called a(n) _____.

- a) chain
- b) library
- c) object
- d) executable

ANS: (d)

2.14. The escape sequence for horizontal tab is _____.

- a) \t ab
- b) \t
- c) \horizontalab
- d) \t

ANS: (b)

2.3 Another Simple Program: Adding Two Integers

2.15 Which of the following is not a valid integer value?

- (a) -3
- (b) 0
- (c) 2134859
- (d) 1.1

ANS: (d)

2.16 Which of the following is an invalid identifier (variable name)?

- (a) _Test
- (b) TEST

- (c) `5test`
- (d) `test1`

ANS: (c)

2.17 Which statement prints “hi” on the screen?

- (a) `printf("hi");`
- (b) `print "hi";`
- (c) `printf "hi";`
- (d) none of the above

ANS: (a)

2.18 The _____ sign is also known as the _____ operator.

- (a) `+`, assignment
- (b) `=`, assignment
- (c) `*`, stream manipulator
- (d) `&`, stream insertion

ANS: (b)

2.19. A(n) _____ is a location in the computer's memory where a value can be stored for use by a program.

- a) unknown
- b) name
- c) variable
- d) declaration

ANS: (c)

2.20. Which statement is false.

- a) Variables may be defined anywhere in the body of `main`.
- b) All variables must be defined.
- c) All variable definitions must include the name and data type of each variable.
- d) Several variable of the same data type may be defined in one definition.

ANS: (a)

2.21. Which of these is not a valid identifier?

- a) `a_valid_identifier`
- b) `a1_valid_identifier`
- c) `a_valid_identifier_`
- d) `1_valid_identifier`

ANS: (d)

2.22. Which of the following statements is false?

- a) C is case sensitive.
- b) Uppercase and lowercase letters are different in C.
- c) `identifier` and `IdEnTiFiEr` are identical identifiers in C.
- d) Identifiers can be of any length

ANS: (c)

2.23. Which of the following multiple word variable names does not conform to the good programming practices in the text?

- a) `multiple_word_variable_name`
- b) `multipleWordVariableName`
- c) `multiplewordvariablename`
- d) `aReallyReallyLongMultipleWordVa`

ANS: (c)

2.24. A(n) _____ error is caused when the compiler can not recognize a statement.

- a) `sin tax`
- b) `syntax`
- c) `linkage`
- d) `execution`

ANS: (b)

2.25. The address operator is

- a) `&&`
- b) `%`
- c) `@`
- d) `&`

ANS: (d)

2.26. Which statement is false?

- a) in the statement

```
sum = integer1 + integer2;
```

both = and + are binary operators.

- b) The statement in part a) is an example of an assignment statement;
- c) The spaces around each of the binary operators in the statement of part a) are required.
- d) The calculation in part a) occurs correctly on the right hand side of the = operator.

ANS: (c)

2.27. Which of the following is false?

- a) Each variable being input in a `scanf` statement is generally preceded by an `&`.
- b) Each variable being output in a `printf` statement is generally not preceded by an `&`.
- c) In a `printf` statement place inside the format control string the comma that separates the format control string from the expressions to be printed.
- d) In a `printf` statement, preceding the name of a variable to be printed prints the address of that variable.

ANS: (c)

2.4 Memory Concepts

2.28 Variable names actually correspond to _____.

- (a) locations in the computer's memory
- (b) operators
- (c) integers
- (d) data types

ANS: (a)

2.28 When a number gets assigned to a variable that already has a value _____.

- (a) the new number overwrites the previous value at that memory location
- (b) the new number gets assigned to a neighboring memory location
- (c) the computer issues an error
- (d) the new value is destroyed and the old value remains

ANS: (a)

2.30. Every variable has all the attributes below, except

- a) name
- b) value
- c) alias
- d) type

ANS: (c)

2.31. Which of the following is false?

- a) Reading a value into a memory location destroys the previous value.
- b) Reading a value out of a memory location destroys that value.
- c) `sum = integer1 + integer2;` involves destructive read-in.
- d) The statement in part c) also involves nondestructive read-out.

ANS: (b)

2.5 Arithmetic

2.32 Which operation will find the remainder when 15 is divided by 6?

- (a) $15 / 6$
- (b) $15 \% 6$
- (c) $15 \wedge 6$
- (d) $15 * 6$

ANS: (b)

2.33 Evaluate the expression

$$3 * 4 \% 6 + 4 * 5$$

- (a) 20
- (b) 26
- (c) 12
- (d) 32

ANS: (a)

2.34. Which statement is false?

- a) In algebra, we write ab to multiply a times b .
- b) In C, we write $a*b$ to multiply a times b .
- c) In C, the modulus operator is `%`.
- d) In C, integer division yields an integer result.

ANS: (b)

2.35. Which statement about C arithmetic is false?

- a) $6 / 3$ yields 2
- b) $5 / 2$ yields 2.5
- c) $7 \% 3$ yields 1
- d) $6 \% 3$ yields 0

ANS: (b)

2.36. $a * (b + c)$ may also be written in C as

- a) $ab + ac$
- b) $(a * b) + c$
- c) $a * b + c$
- d) $a * b + a * c$

ANS: (d)

2.37. Which statement about precedence is false?

- a) Parentheses may be used to force the order of evaluation to occur in any sequence desired by the programmer.
- b) Nested, or embedded parentheses are evaluated last.
- c) Multiplication has a higher precedence than addition.
- d) Subtraction has a lower precedence than division.

ANS: (b)

2.38. Which expression is true?

- a) The expression $a * (b + c) + c * (d + e)$ contains nested parentheses.
- b) The expression $y = a * x * x + b * x + c$ is a second degree polynomial.
- c) The C standard library provides function `power` to perform exponentiation.
- d) When we say evaluation of an expression proceeds from left to right we are referring to the additivity of the operators.

ANS: (b)

2.6 Decision Making: Equality and Relational Operators

2.39 C's `if` statement executes the statement inside its body if a specified _____ is _____.

- (a) condition, `true`
- (b) condition, `false`
- (c) equality operator, `true`
- (d) relational operator, `true`

ANS: (a)

2.40 Which of the following is an equality operator?

- (a) `==`
- (b) `=`
- (c) `>`
- (d) `>=`

ANS: (a)

2.41. Which statement is false?

- a) Executable C statements either perform actions or make decisions.
- b) If the condition in an `if` statement is met, the statement in the body of the `if` statement is executed.
- c) All the relational operators have the same level of precedence.
- d) The equality operators have a higher level of precedence than the relational operators.

ANS: (d)

2.42. Which statement is false?

- a) The relational operators associate left to right.
- b) An execution time error will occur if the two symbols in any of the operators `==`, `!=`, `>=` and `<=` are separated by spaces.
- c) Confusing the `==` operator with `=` operator is typically an error.
- d) The equality operators associate left to right.

ANS: (b)

2.43. Which statement is false?

- a) Whitespace characters such as tabs, newlines and spaces are generally ignored by the C compiler.
- b) The statements in an `if` statement must be indented.
- c) Placing a blank line before and after every control structure can improve program readability.
- d) There can be (but should not be) more than one statement per line.

ANS: (b)

2.44. Which statement is false?

- a) It is not correct to split an identifier with a space, a tab or a newline.

- b) Statements and comments may be split over several lines.
- c) The equals sign (=) is not an operator.
- d) A correct place to break a line is after a comma in a comma-separated list.

ANS: (c)

2.45. Which of the following is not a keyword?

- a) `int`
- b) `return`
- c) `if`
- d) `main`

ANS: (d)

2.46. Which statement is false?

- a) The assignment operator associates from left to right.
- b) The arithmetic operators associate from left to right.
- c) The equality operators associate from left to right.
- d) The relational operators associate from left to right.

ANS: (a)

2.47. The order in which statements are _____ is called flow of control.

- a) entered in a source file
- b) preprocessed
- c) compiled
- d) executed

ANS: (d)

2.48. Which is not a keyword?

- a) `register`
- b) `volatile`
- c) `external`
- d) `struct`

ANS: (c)