

Starting Out with C++ from Control Structures to Objects, 8e (Gaddis)

Chapter 2 Introduction to C++

2.1 Multiple Choice Questions

1) In a C++ program, two slash marks (/ /) indicate:

- A) The end of a statement
- B) The beginning of a comment
- C) The end of the program
- D) The beginning of a block of code
- E) None of the above

Answer: B

2) A statement that starts with a # symbol is called a:

- A) Comment
- B) Function
- C) Preprocessor directive
- D) Key word
- E) None of the above

Answer: C

3) For every opening brace in a C++ program, there must be a:

- A) String literal
- B) Function
- C) Variable
- D) Closing brace
- E) None of the above

Answer: D

4) The _____ is/are used to display information on the computer's screen.

- A) Opening and closing braces
- B) Opening and closing quotation marks
- C) cout object
- D) Backslash
- E) None of the above

Answer: C

5) The _____ causes the contents of another file to be inserted into a program.

- A) Backslash
- B) Pound sign
- C) Semicolon
- D) #include directive
- E) None of the above

Answer: D

6) _____ represent storage locations in the computer's memory.

- A) Literals
- B) Variables
- C) Comments
- D) Integers
- E) None of the above

Answer: B

7) These are data items whose values do not change while the program is running.

- A) Literals
- B) Variables
- C) Comments
- D) Integers
- E) None of the above

Answer: A

8) You must have a _____ for every variable you intend to use in a program.

- A) purpose
- B) definition
- C) comment
- D) constant
- E) None of the above

Answer: B

9) Of the following, which is a valid C++ identifier?

- A) June1997
- B) _employee_number
- C) ___department
- D) myExtraLongVariableName
- E) All of the above are valid identifiers.

Answer: E

10) The numeric data types in C++ can be broken into two general categories:

- A) numbers and characters
- B) singles and doubles
- C) integer and floating point
- D) real and unreal
- E) None of the above

Answer: C

11) Besides decimal, two other number systems you might encounter in C++ programs are:

- A) Octal and Fractal
- B) Hexadecimal and Octal
- C) Unary and Quaternary
- D) Base 7 and Base 9
- E) None of the above

Answer: B

12) A character literal is enclosed in _____ quotation marks, whereas a string literal is enclosed in _____ quotation marks.

- A) double, single
- B) triple, double
- C) open, closed
- D) single, double
- E) None of the above

Answer: D

13) In memory, C++ automatically places a _____ at the end of string literals.

- A) Semicolon
- B) Quotation marks
- C) Null terminator
- D) Newline escape sequence
- E) None of the above

Answer: C

14) Which escape sequence causes the cursor to move to the beginning of the current line?

- A) \n
- B) \t
- C) \a
- D) \b
- E) \r

Answer: E

15) What is the modulus operator?

- A) +
- B) *
- C) &
- D) %
- E) ||

Answer: D

16) Which data type typically requires only one byte of storage?

- A) short
- B) int
- C) float
- D) char
- E) double

Answer: D

17) What is the output of the following statement?

```
cout << 4 * (15 / (1 + 3)) << endl;
```

- A) 15
- B) 12
- C) 63
- D) 72
- E) None of these

Answer: B

18) In programming terms, a group of characters inside a set of quotation marks is called a(n):

- A) String literal
- B) Variable
- C) Operation
- D) Statement
- E) None of the above

Answer: A

19) This is used to mark the end of a complete C++ programming statement.

- A) Pound Sign
- B) Semicolon
- C) Data type
- D) Void
- E) None of the above

Answer: B

20) Which character signifies the beginning of an escape sequence?

- A) //
- B) /
- C) \
- D) #
- E) {

Answer: C

21) _____ must be included in any program that uses the `cout` object.

- A) Opening and closing braces
- B) The header file `iostream`
- C) Comments
- D) Escape sequences
- E) None of the above

Answer: B

22) If you use a C++ key word as an identifier, your program will:

- A) Execute with unpredictable results
- B) not compile
- C) understand the difference and run without problems
- D) Compile, link, but not execute
- E) None of the above

Answer: B

23) What is the value of `cookies` after the execution of the following statements?

```
int number = 38, children = 4, cookies;  
  
cookies = number % children;
```

- A) 2
- B) 0
- C) 9
- D) .5
- E) None of these

Answer: A

24) This function in C++ allows you to identify how many bytes of storage on your computer system an integer data value requires.

- A) `len`
- B) `bytes`
- C) `f(x)`
- D) `int`
- E) `sizeof`

Answer: E

25) Character constants in C++ are always enclosed in _____.

- A) [brackets]
- B) "double quotation marks"
- C) 'single quotation marks'
- D) {braces}
- E) (parentheses)

Answer: C

26) These are used to declare variables that can hold real numbers.

- A) Integer data types
- B) Real data types
- C) Floating point data types
- D) Long data types
- E) None of the above

Answer: C

27) The float data type is considered _____ precision, and the double data type is considered _____ precision.

- A) single, double
- B) float, double
- C) integer, double
- D) short, long
- E) None of the above

Answer: A

28) A variable whose value can be either true or false is of this data type.

- A) binary
- B) bool
- C) T/F
- D) float
- E) None of the above

Answer: B

29) Which of the following correctly consolidates the following declaration statements into one statement?

```
int x = 7;
int y = 16;
int z = 28;
```

- A) `int x = 7; y = 16; z = 28;`
- B) `int x = 7 y = 16 z = 28;`
- C) `int x, y, z = 7, 16, 28`
- D) `int x = 7, y = 16, z = 28;`
- E) None of these will work.

Answer: D

30) A variable's _____ is the part of the program that has access to the variable.

- A) data type
- B) value
- C) scope
- D) reach
- E) None of the above

Answer: C

31) Every complete C++ program must have a _____.

- A) comment
- B) function named `main`
- C) preprocessor directive
- D) symbolic constant
- E) `cout` statement

Answer: B

32) This control sequence is used to skip over to the next horizontal tab stop.

- A) \n
- B) \h
- C) \t
- D) \a
- E) \'

Answer: C

33) Which one of the following would be an illegal variable name?

- A) dayOfWeek
- B) 3dGraph
- C) _employee_num
- D) June1997
- E) itemsorderedforthemonth

Answer: B

34) Look at the following program and answer the question that follows it.

```
1  // This program displays my gross wages.
2  // I worked 40 hours and I make $20.00 per hour.
3  #include <iostream>
4  using namespace std;
5
6  int main()
7  {
8      int hours;
9      double payRate, grossPay;
10
11     hours = 40;
12     payRate = 20.0;
13     grossPay = hours * payRate;
14     cout << "My gross pay is $" << grossPay << endl;
15     return 0;
16 }
```

Which line(s) in this program cause output to be displayed on the screen?

- A) 13 and 14
- B) 8 and 9
- C) 14
- D) 13
- E) 15

Answer: C

35) Which of the following defines a double-precision floating point variable named `payCheck`?

- A) `float payCheck;`
- B) `double payCheck;`
- C) `payCheck double;`
- D) `Double payCheck;`

Answer: B

36) What will the following code display?

```
cout << "Monday";  
cout << "Tuesday";  
cout << "Wednesday";
```

- A) Monday
Tuesday
Wednesday
- B) Monday Tuesday Wednesday
- C) MondayTuesdayWednesday
- D) "Monday"
"Tuesday"
"Wednesday"

Answer: C

37) What will the following code display?

```
int number = 7;  
  
cout << "The number is " << "number" << endl;
```

- A) The number is 7
- B) The number is number
- C) The number is7
- D) The number is 0

Answer: B

38) What will the following code display?

```
int x = 0, y = 1, z = 2;

cout << x << y << z << endl;
```

A) 0 1 2

B) 0
1
2

C) xyz

D) 012

Answer: D

39) What will the following code display?

```
cout << "Four\n" << "score\n";
cout << "and" << "\nseven";
cout << "\nyears" << " ago" << endl;
```

A) Four
score
and
seven
years ago

B) Four score and seven
years ago

C) Four
score
and seven
years ago

D) Four score
and seven
years ago

Answer: A

40) What will the following code display?

```
cout << "Four " << "score ";  
cout << "and " << "seven/n";  
cout << "years" << "ago" << endl;
```

- A) Four score and seven
yearsago
- B) Four score and seven
years ago
- C) Four score and seven/nyearsago
- D) Four
score
and
seven
yearsago

Answer: C

41) What will the following code display?

```
cout << "Four" << "score" << endl;  
cout << "and" << "seven" << endl;  
cout << "years" << "ago" << endl;
```

- A) Four
score
and
seven
years
ago
- B) Four score and seven years ago
- C) Fourscoreandsevenyearsago
- D) Fourscore
andseven
yearsago

Answer: D

42) Assume that a program has the following variable definition:

```
char letter;
```

Which of the following statements correctly assigns the character Z to the variable?

- A) `letter = Z;`
- B) `letter = "Z";`
- C) `letter = 'Z';`
- D) `letter = (Z);`

Answer: C

43) What will the value of x be after the following statements execute?

```
int x;  
  
x = 18 / 4;
```

- A) 4.5
- B) 4
- C) 0
- D) unknown

Answer: B

44) What will the value of x be after the following statements execute?

```
int x;  
  
x = 18.0 / 4;
```

- A) 4.5
- B) 4
- C) 0
- D) unknown

Answer: A

45) What will the value of x be after the following statements execute?

```
int x;  
  
x = 18 % 4;
```

- A) 0.45
- B) 4
- C) 2
- D) unknown

Answer: C

46) Assuming you are using a system with 1-byte characters, how many bytes of memory will the following string literal occupy?

```
"William"
```

- A) 7
- B) 14
- C) 8
- D) 1

Answer: C

47) The first step in using the `string` class is to `#include` the _____ header file.

- A) `iostream`
- B) `cctype`
- C) `cmath`
- D) `string`
- E) None of the above

Answer: D

48) Assume that a program has the following `string` object definition:

```
string name;
```

Which of the following statements correctly assigns a string literal to the `string` object?

- A) `name = Jane;`
- B) `name = "Jane";`
- C) `name = 'Jane';`
- D) `name = (Jane);`

Answer: B

49) In C++ 11, if you want an integer literal to be treated as a `long long int`, you can append _____ at the end of the number.

- A) L
- B) `<INT>`
- C) I
- D) LL
- E) None of the above

Answer: D

50) In C++ 11, the _____ tells the compiler to determine the variable's data type from the initialization value.

- A) `auto` key word
- B) `#include` preprocessor directive
- C) variable's name
- D) `dynamic_cast` key word
- E) None of the above

Answer: A

2.2 True/False Questions

1) True/False: When typing in your source code into the computer, you must be very careful since most of your C++ instructions, header files, and variable names are case sensitive.

Answer: TRUE

2) True/False: A preprocessor directive does not require a semicolon at the end.

Answer: TRUE

3) True/False: The C++ language requires that you give variables names that indicate what the variables are used for.

Answer: FALSE

4) True/False: A variable called "average" should be declared as an integer data type because it will probably hold data that contains decimal places.

Answer: FALSE

5) True/False: Escape sequences are always stored internally as a single character.

Answer: TRUE

6) True/False: Floating point constants are normally stored in memory as doubles.

Answer: TRUE

7) True/False: C++ does not have a built in data type for storing strings of characters.

Answer: TRUE

8) True/False: If you do not follow a consistent programming style, your programs will generate compiler errors.

Answer: FALSE

9) True/False: When writing long integer literals or long long integer literals in C++ 11, you can use either an uppercase or lowercase L.

Answer: TRUE

10) True/False: C++ 11 introduces an alternative way to define variables, using the `template` key word and an initialization value.

Answer: FALSE