

Chapter 2: Introduction to C++ Programming; Input/Output and Operators**Section 2.2 First Program in C++: Printing a Line of Text**

2.2 Q1: End-of-line comments that should be ignored by the compiler are denoted using:

- a. Two forward slashes (//).
- b. Three forward slashes (///).
- c. A slash and a star (/*).
- d. A slash and two stars (/**).

ANS: a. Two forward slashes (//).

2.2 Q2: Which of the following does *not* cause a syntax error to be reported by the C++ compiler?

- a. Mismatched {}.
- b. Missing */ in a comment.
- c. Missing ; at the end of a statement.
- d. Extra blank lines.

ANS: d. Extra blank lines.

2.2 Q3: Which of the following is *not* a syntax error?

- a. `std::cout << 'Hello world! ';`
- b. `std::cout << "Hello
world! ";`
- c. `std::cout << "Hello world! ";`
- d. `std::cout << Hello world!;`

ANS: c. `std::cout << "Hello world! ";`

2.2 Q4: The escape sequence for a newline is:

- a. `\n`
- b. `\t`
- c. `\r`
- d. `\a`

ANS: a. `\n`

2.2 Q5: Which of the following statements would display the phrase C++ is fun?

- a. `std::cout << "Thisis fun\rC++ ";`
- b. `std::cout << '++ is fun';`
- c. `std::cout << "\"C++ is fun\"";`
- d. `std::cout << C++ is fun;`

ANS: a. `std::cout << "Thisis fun\rC++ ";`

Section 2.3 Modifying Our First C++ Program

2.3 Q1: Which of the following is *not* a valid C++ identifier?

- a. `my value`
- b. `_AAA1`
- c. `width`
- d. `m_x`

ANS: a. `my value` (Identifiers may not contain blanks)

2.3 Q2: Which is the output of the following statements?

```
std::cout << "Hello ";  
std::cout << "World";
```

- a. `Hello world`

- b. world Hello
- c. Hello
world
- d. world
Hello

ANS: a. **Hello world**

2.3 Q3: Which of the following is the escape character?

- a. *
- b. \
- c. \n
- d. "

ANS: b. \

2.3 Q4: Which of the following code segments prints a single line containing hello there with the words separated by a single space?

- a. `std::cout << "hello ";`
`std::cout << " there";`
- b. `std::cout << "hello" , " there";`
- c. `std::cout << "hello";`
`std::cout << "there";`
- d. `std::cout << "hello";`
`std::cout << " there";`

ANS: d. **`std::cout << "hello";`**
`std::cout << " there";`

Section 2.4 Another C++ Program: Adding Integers

2.4 Q1: Which of the following is a variable declaration statement?

- a. `int total;`
- b. `#include <iostream>`
- c. `int main()`
- d. `// first string entered by user`

ANS: a. **`int total;`**

2.4 Q2: The _____ object enables a program to read data from the user.

- a. `std::cout.`
- b. `std::cin.`
- c. `std::cread.`
- d. `std::cget.`

ANS: b. **`std::cin.`**

2.4 Q3: The assignment operator _____ assigns the value of the expression on its right to the variable on its left.

- a. `<-`
- b. `->`
- c. `=`
- d. `#`

ANS: c. **`=`.**

2.4 Q4: The `std::endl` stream manipulator_____.

- a. inputs a newline.
- b. flushes the output buffer.
- c. outputs a newline and flushes the output buffer.
- d. terminates the program.

ANS: c. **outputs a newline and flushes the output buffer.**

Section 2.5 Memory Concepts

2.5 Q1: Which of the following statements does *not* overwrite a preexisting value stored in a memory location?

- a. `int a;`
- b. `number = 12;`
- c. `y = y + 2;`
- d. `width = length;`

ANS: a. `int a;`

2.5 Q2: Which of the following statements could potentially change the value of `number2`?

- a. `std::cin >> number2;`
- b. `sum = number1 + number2;`
- c. `number1 = number2;`
- d. `std::cout << number2;`

ANS: a. `std::cin >> number2;`

Section 2.6 Arithmetic

2.6 Q1: What is the value of `result` after the following C++ statements execute?

```
int a, b, c, d, result;
a = 4;
b = 12;      c = 37;
d = 51;
result = d % a * c + a % b + a;
```

- a. 119
- b. 51
- c. 127
- d. 59

ANS: a. 119.

2.6 Q2: In what order would the following operators be evaluated

`-, *, /, +, %`

Assume that if two operations have the same precedence, the one listed first will be evaluated first.

- a. `+, -, /, *, %`
- b. `-, +, %, *, /`
- c. `-, *, %, +, /`
- d. `*, /, %, -, +`

ANS: d. `*, /, %, -, +`

2.6 Q3: Which of the following is *not* an arithmetic operator?

- a. `+`
- b. `-`
- c. `=`
- d. `%`

ANS: c. `=`

Section 2.7 Decision Making: Equality and Relational Operators

2.7 Q1: What will be the output after the following C++ statements have been executed?

```
int a, b, c, d;
a = 4;
b = 12;
c = 37;
d = 51;

if ( a < b )
    cout << "a < b" << endl;

if ( a > b )
    cout << "a > b" << endl;

if ( d <= c )
    cout << "d <= c" << endl;

if ( c != d )
    cout << "c != d" << endl;
```

- a. a < b
c != d
- b. a < b
d <= c
c != d
- c. a > b
c != d
- d. a < b
c < d
a != b

**ANS: a. a < b
c != d**

2.7 Q2: Which of the following *is* a compilation error?

- a. Neglecting to declare a local variable in a function before it is used.
- b. Using a triple equals sign instead of a double equals sign in the condition of an if statement.
- c. Omitting the left and right parentheses for the condition of an if statement.
- d. All of the above.

ANS: d. All of the above.

2.7 Q3: Each of the following is a relational or equality operator *except*:

- a. <=
- b. !=
- c. ==
- d. >

ANS: b. !=