2 Introduction to the C++ Language

REVIEW QUESTIONS

1. The purpose of a library file, such as `iostream`, is to store a program's source code.

b. False

3. Logical data in C++ is generally represented by integer values.

b. False

5. Which of the following statements about the structure of a C++ program is false?

b. Declaration sections contain instructions to the computer.

7. Which of the following identifiers is not valid?

d. $salesAmount

9. Which of the following statements about characters is true?

a. Each character has a unique binary value.

11. Which of the following statements about a constant are true?

c. Like variables, constants have a type and may be named.

12. Which of the following statements about files is false?

b. The keyboard is usually not buffered.

EXERCISES

13. The following are not character constants:

b. 'bb'

c. "C"

15. The following are not floating-point constants::

c. 'a'

d. pi

e. 40

17. The following are not valid identifiers:

b. not valid — Starts with number

c. not valid — Reserved word

e. not valid — Hyphen is illegal

19. The following lines must be changed:

```
line 1:  #include <iostream>
add      using namespace std;
line 4:  cout << "Hello World\n";
line 6:  } // main
```

21. The following lines must be changed:

```
add   4: #include <iostream>
line  6: int   a;
line  7: float b;
line  8: char  c;
line 10: Printing variables before initialization.
```

23. The following lines must be changed:

```
add   4: #include <iostream>
add   5: using namespace std;
line  6: int    a;
line  7: char   b;        // We recommend
         char   c;
         char   d;        // One definition/line
line  8: double e;        // 'd' declared twice
         float  f;
// Printing variables before initialization
line 10: cout << a;
line 11: cout << b << c << d;
line 12: cout << e << f;
```

PROBLEMS

25.

```
/* Print four lines with increasing asterisks.
      Written by:
      Date:
*/
#include <iostream>
using namespace std;

int main ()
{
   cout << "*\n";
   cout << "**\n";
   cout << "***\n";
   cout << "****\n";
   return 0;
}  // main
```

27.

```
/* This program prints 5 numbers.
      Written by:
      Date:
*/
#include <iostream>
using namespace std;

int main ()
{
   int a = 1;
```

```
    int b = 10;
    int c = 100;
    int d = 1000;
    int e = 10000;
    cout << a << ' ' << b << ' ' << c << ' '
         << d << ' ' << e << endl;
    return 0;
}   // main
```

29. Code variable definitions:

a. short code;

b. const float salesTax = 0.0825;

c. double sum = 0.0;

31.

```
/* Read and print an integer and a float.
      Written by:
      Date:
*/
#include <iostream>
   using namespace std;

int main ()
{
   cout << "Enter quantity and unit price: \n";
   int quantity;
   cin >> quantity;
   float unitPrice;
   cin >> unitPrice;

   cout << "\nYou entered:\n";
   cout << "Quantity:   " << quantity  << endl;
   cout << "Unit Price: " << unitPrice << endl;
   return 0;
}   // main
```