3 Structure of a C++ Program

REVIEW QUESTIONS

1. A unary expression consists of only one operand with no operator.

b. False

3. Associativity is used to determine which of several different expressions is evaluated first.

b. False

5. An expression statement is terminated with a period.

b. False

7. C++ contains seven different expression formats. Which of the following is not an expression format?

b. conditional

9. Which of the following is a unary expression?

b. ++a

11. _____ is used to determine the order in which different operators in a complex expression are evaluated.

b. precedence

13. Which of the following statements about mixed expressions is false?

c. An explicit cast on a variable changes its type in memory.

15. Which of the following statements about compound statements is false?

c. A compound statement must be terminated by a semicolon.

EXERCISES

17. The following expressions are not unary:

e. x = 4 (assignment)

19. The following expressions are not assignments

All are assignments, although answer c is a compound assignment:

21. If x = 3 and y = 5, then the value of x and y in each expression is:

a. x = 4, y = 5

b. x = 4, y = 5

c. x = 4, y = 6

d. x = 4, y = 5

e. x = 2, y = 4

23. The value of each expression is:

a. 22.52

b. 4.5

c. 13.33

d. 0.88

e. 0.07

25. If x = 2, y = 3, and z = 1, then the value of each expression is:

a. 5

b. 2

c. 4

d. –3

e. 6

PROBLEMS

27. The output of the code fragment is:

```
 50  50
100  25
```

29.

```
/* This program calculates and prints the quotient
   and remainder of two numbers.
      Written by:
      Date:
*/
#include <iostream>
using namespace std;

int main ()
{
   int a;
   int b;
   cout << "Enter 2 integers: ";
   cin  >> a >> b;

   cout << "The quotient  is " << ( a / b ) << endl;
   cout << "The remainder is " << ( a % b ) << endl;
   return 0;
}  // main
```

31.

```
/* Extract and print second rightmost digit of the
   integral portion of a float.
      Written by:
      Date:
*/
```

```
#include <iostream>
using namespace std;

int main ()
{
   cout << "Enter a floating-point value: ";
   float a;
   cin  >> a;

   int d2 = static_cast<int>(a) / 10 % 10;
   cout << "The second rightmost digit is "
        << d2 << endl;
   return 0;
}  // main
```

33.

```
/* This program converts degrees into radians.
      Written by:
      Date:
*/
#include <iostream>
using namespace std;

int main ()
{
   cout << "Enter an angle in degrees: ";
   double  degree;
   cin  >> degree;

   cout << degree << " degrees is "
        << degree / 57.295779 << " radians\n";
   return 0;
}  // main
```