Chapter Five

MULTIPLE CHOICE

1. These are operators that add and subtract one from their operands.

a.	plus and minus
b.	++ and --
c.	binary and unary
d.	conditional and relational
e.	None of these

ANS:

2. What is the output of the following code segment?

```
n = 1;
while (n <= 5)
   cout << n << '  ';
   n++;
```

a.	1 2 3 4 5
b.	1 1 1... and on forever
c.	2 3 4 5 6
d.	1 2 3 4
e.	2 3 4 5

ANS:

3. This operator increments the value of its operand, then uses the value in context.

a.	prefix increment
b.	postfix increment
c.	prefix decrement
d.	postfix decrement
e.	None of these

ANS:

4. The `while` loop has two important parts: an expression that is tested for a true or false value, and:

a.	a statement or block that is repeated as long as the expression is true
b.	a statement or block that is repeated only if the expression is false
c.	one line of code that is repeated once, if the expression is true
d.	a statement or block that is repeated once, if the expression is true

ANS:

5. The `while` loop is this type of loop.

a.	post-test
b.	pre-test
c.	infinite
d.	limited
e.	None of these

ANS:

6. If you place a semicolon after the test expression in a `while` loop, it is assumed to be a(n):

a.	pre-test loop
b.	post-test loop
c.	null statement
d.	infinite loop
e.	None of these

ANS:

7. The statements in the body of a `while` loop may never be executed, whereas the statements in the body of a `do-while` loop will be executed:

a.	at least once
b.	at least twice
c.	as many times as the user wishes
d.	never
e.	None of these

ANS:

8. A `for` statement contains three expressions: initialization, test, and

a.	update
b.	reversal
c.	null
d.	validation
e.	None of these

ANS:

9. In a `for` statement, this expression is executed only once.

a.	test
b.	null
c.	initialization
d.	validation
e.	None of these

ANS:

10. You may define a _____ in the initialization expression of a for loop.

a.	constant
b.	function
c.	variable
d.	new data type
e.	None of these

ANS:

11. The `do-while` loop is a _____ loop that is ideal in situations where you always want the loop to iterate at least once.

a.	post-test
b.	pre-test
c.	infinite
d.	null-terminated

e.	None of these

ANS:

12. A loop that is inside another loop is called:

a.	an infinite loop
b.	a pre-test loop
c.	a post-test loop
d.	a nested loop
e.	None of these

ANS:

13. This statement may be used to stop a loop's current iteration and begin the next one.

a.	break
b.	terminate
c.	re-iterate
d.	continue
e.	None of these

ANS:

14. This means to increase a value by one.

a.	decrement
b.	increment
c.	modulus
d.	parse
e.	None of these

ANS:

15. When the increment operator precedes its operand, as in `++num1`, the expression is in this mode.

a.	postfix
b.	prefix
c.	preliminary
d.	binary
e.	None of these

ANS:

16. Look at the following statement.

```
while (x++ < 10)
```

Which operator is used first?

a.	++
b.	<
c.	Neither. The expression is invalid.

ANS:

17. This is a control structure that causes a statement or group of statements to repeat.

a.	decision statement

b.	constant
c.	loop
d.	`cout` object
e.	None of these

ANS:

18. The `while` loop contains an expression that is tested for a `true` or `false` value, and a statement or block that is repeated as long as the expression

a.	is `false`
b.	is `true`
c.	does not evaluate to `true` or f`alse`
d.	evaluates to `true` or `false`
e.	None of these

ANS:

19. Something within a `while` loop must eventually cause the condition to become false, or a(n) _____ results.

a.	null value
b.	infinite loop
c.	unexpected exit
d.	compiler error
e.	None of these

ANS:

20. This is a variable that is regularly incremented or decremented each time a loop iterates.

a.	constant
b.	counter
c.	control statement
d.	null terminator
e.	None of these

ANS:

21. This is a special value that marks the end of a list of values.

a.	constant
b.	variable
c.	loop
d.	sentinel
e.	None of these

ANS:

22. What is the output of the following code segment?

```
n = 1;
for ( ; n <= 5; )
   cout << n << '   ';
   n++;
```

a.	1 2 3 4 5

b.	1 1 1 ... and on forever
c.	2 3 4 5 6
d.	1 2 3 4
e.	2 3 4 5

ANS:

23. The `do-while` loop is considered a(n) _____ loop.

a.	pre-test
b.	post-test
c.	infinite
d.	limited
e.	None of these

ANS:

24. This loop is a good choice when you know how many times you want the loop to iterate in advance of entering the loop.

a.	`do-while`
b.	`while`
c.	`for`
d.	infinite
e.	None of these

ANS:

25. This is a pre-test loop that is ideal in situations where you do not want the loop to iterate if the condition is false from the beginning.

a.	`do-while`
b.	`while`
c.	`for`
d.	infinite
e.	None of these

ANS:

26. This statement causes a loop to terminate early.

a.	`stop`
b.	`break`
c.	`null`
d.	`terminate`
e.	None of these

ANS:

27. If you want a user to enter exactly 20 values, which loop would be the best to use?

a.	`do-while`
b.	`for`
c.	`while`
d.	`infinite`
e.	None of these

ANS:

28. This statement may be used to stop a loop's current iteration and begin the next one.

a.	break
b.	terminate
c.	return
d.	continue
e.	None of these

ANS:

29. What will the following loop display?

```
int x = 0;
while (x < 5)
{
   cout << x << endl;
   x++;
}
```

a.	0 1 2 3 4 5	c.	01 2 3 4
b.	0 1 2 3 4	d.	The loop will display numbers starting at 0, for infinity.

ANS:

30. What will the following code display?

```
int number = 6;
number++;
cout << number << endl;
```

a.	6	c.	7
b.	5	d.	0

ANS:

31. What will the following code display?

```
int number = 6;
++number;
cout << number << endl;
```

a.	6	c.	7
b.	5	d.	0

ANS:

32. What will the following code display?

```
int number = 6;
cout << number++ << endl;
```

a.	6	c.	7
b.	5	d.	0

ANS:

33. What will the following code display?

```
int number = 6;
cout << ++number << endl;
```

a.	6	c.	7
b.	5	d.	0

ANS:

34. What will the following code display?

```
int number = 6;
int x = 0;
x = number--;
cout << x << endl;
```

a.	6	c.	7
b.	5	d.	0

ANS:

35. What will the following code display?

```
int number = 6
int x = 0;
x = --number;
cout << x << endl;
```

a.	6	c.	7
b.	5	d.	0

ANS:

36. To allow file access in a program, you must `#include` this header file.

a.	`file`
b.	`fileaccess`
c.	`fstream`

d.	`cfile`

ANS:

37. A file _____ is a small holding section of memory that file-bound information is first written to.

a.	name
b.	number
c.	buffer
d.	segment
e.	None of these

ANS:

38. This may be used to write information to a file.

a.	`cout` object
b.	`pen` object
c.	`output` object
d.	stream insertion operator
e.	None of these

ANS:

39. To write data to a file, you define an object of this data type.

a.	`outputFile`
b.	`ifstream`
c.	`fstream`
d.	`ofstream`

ANS:

40. To read data from a file, you define an object of this data type.

a.	`inputFile`
b.	`ifstream`
c.	`fstream`
d.	`ofstream`

ANS:

41. Assuming `outFile` is a file stream object and `number` is a variable, which statement writes the contents of `number` to the file associated with `outFile`?

a.	`write(outFile, number);`
b.	`outFile >> number;`
c.	`outFile << number;`
d.	`number >> outFile;`

ANS:

42. Assuming `dataFile` is a file stream object, the statement `dataFile.close();`

a.	is illegal in C++
b.	needs a filename argument to execute correctly
c.	closes a file
d.	is legal but risks losing valuable data
e.	None of these

ANS:

43. A file must be _____ before data can be written to or read from it.

a.	closed
b.	opened
c.	buffered
d.	initialized
e.	None of these

ANS:

44. What will the following code display?

```
int x = 0;
for (int count = 0; count < 3; count++)
   x += count;
cout << x << endl;
```

a.	0 1 2	c.	6
b.	0	d.	3

ANS:

45. How many times will the following loop display “Hello”?

```
for (int i = 0; i < 20; i++)
   cout << "Hello!" << endl;
```

a.	20	c.	21
b.	19	d.	An infinite number of times

ANS:

46. How many times will the following loop display “Hello”?

```
for (int i = 1; i < 20; i++)
   cout << "Hello!" << endl;
```

a.	20	c.	21
b.	19	d.	An infinite number of times

ANS:

47. How many times will the following loop display “Hello”?

```
for (int i = 0; i <= 20; i++)
   cout << "Hello!" << endl;
```

a.	20	c.	21

b.	19	d.	An infinite number of times

ANS:

48. How many times will the following loop display “Hello”?

```
for (int i = 20; i > 0; i--)
   cout << "Hello!" << endl;
```

a.	20	c.	21
b.	19	d.	An infinite number of times

ANS: