

## Review SELECTION Exercises

### MULTIPLE CHOICE

1. Relational operators allow you to \_\_\_\_\_ numbers.

a.	add
b.	multiply
c.	compare
d.	average
e.	None of these

ANS:

2. After execution of the following code, what will be the value of `input_value` if the value 0 is entered at the keyboard at run time?

```
cin >> input_value;
if (input_value > 5)
    input_value = input_value + 5;
else if (input_value > 2)
    input_value = input_value + 10;
else
    input_value = input_value + 15;
```

a.	15
b.	10
c.	25
d.	0
e.	5

ANS:

3. What will be the output of the following code segment after the user enters 0 at the keyboard?

```
int x = -1;
cout << "Enter a 0 or a 1 from the keyboard: ";
cin >> x;
if (x)
    cout << "true" << endl;
else
    cout << "false" << endl;
```

a.	Nothing will be displayed
b.	false
c.	x
d.	true

ANS:

4. What is assigned to the variable `a` given the statement below with the following assumptions: `x = 10`, `y = 7`, and `z`, `a`, and `b` are all `int` variables.

```
a = x >= y;
```

a.	10
b.	7
c.	The string "x >= y"
d.	1
e.	0

ANS:

5. If you place a semicolon after the statement `if (x < y)`

a.	The code will not compile.
b.	The compiler will interpret the semicolon as a null statement.
c.	The <code>if</code> statement will always evaluate to false.
d.	All of the above.
e.	None of these.

ANS:

6. When a relational expression is false, it has the value \_\_\_\_\_.

a.	one
b.	zero
c.	zero, one, or minus one
d.	less than zero
e.	None of these

ANS:

7. This is a variable, usually a boolean or an integer, that signals when a condition exists.

a.	relational operator
b.	arithmetic operator
c.	flag
d.	float
e.	None of these

ANS:

8. What will following segment of code output?

```
int x = 5;
if (x = 2)
    cout << "This is true!" << endl;
else
    cout << "This is false!" << endl;
    cout << "This is all folks!" << endl;
```

a.	This is true!
b.	This is false!

c.	This is true! This is false!
d.	This is true! This is all folks!
e.	None of these

ANS:

9. What will the following segment of code output? You can assume the user enters a grade of 90 from the keyboard.

```
cout << "Enter a test score: ";
cin >> test_score;
if (test_score < 60);
    cout << "You failed the test!" << endl;
if (test_score > 60)
    cout << "You passed the test!" << endl;
else
    cout << "You need to study for the next test!";
```

a.	You failed the test!
b.	You passed the test!
c.	You failed the test! You passed the test!
d.	You failed the test! You did poorly on the test!
e.	None of the above

ANS:

10. When an `if` statement is placed within the conditionally-executed code of another `if` statement, this is known as:

a.	complexity
b.	overloading
c.	nesting
d.	validation
e.	None of these

ANS:

11. What is the output of the following segment of code if 4 is input by the user when asked to enter a number?

```
int num;
int total = 0;
cout << "Enter a number from 1 to 10: ";
cin >> num;
switch (num)
{
```

```

    case 1:
    case 2:    total = 5;
    case 3:    total = 10;
    case 4:    total = total + 3;
    case 8:    total = total + 6;
    default:   total = total + 4;
}
cout << total << endl;

```

a.	0
b.	3
c.	13
d.	28
e.	None of these

ANS:

12. What will the following segment of code output?

```

score = 40;
if (score > 95)
    cout << "Congratulations!\n";
    cout << "That's a high score!\n";
    cout << "This is a test question!" << endl;

```

a.	This is a test question!
b.	Congratulations! That's a high score! This is a test question!
c.	That's a high score! This is a test question!
d.	Congratulations! That's a high score!
e.	None of these

ANS:

13. This operator represents the logical AND.

a.	++
b.	
c.	&&
d.	@
e.	None of these

ANS:

14. This operator takes an operand and reverses its truth or falsehood.

a.	
b.	relational

c.	arithmetic
d.	!
e.	None of these

ANS:

15. Assuming  $x$  is 5,  $y$  is 6, and  $z$  is 8, which of the following is false?

1.  $x == 5;$
2.  $7 \leq (x + 2);$
3.  $z < 4;$
4.  $(1 + x) \neq y;$
5.  $z \geq 8;$
6.  $x \geq 0;$
7.  $x \leq (y * 2)$

a.	3, 4, 6, 7 are False
b.	Only 5 is False
c.	3 and 4 are False
d.	All are False
e.	None of these

ANS:

16. Input values should always be checked for

a.	Appropriate range
b.	Reasonableness
c.	Division by zero, if division is taking place
d.	All of these
e.	None of these

ANS:

17. This statement lets the value of a variable or expression determine where the program will branch to.

a.	switch
b.	select
c.	associative
d.	scope
e.	None of these

ANS:

18. Without this statement appearing in a `switch` construct, the program "falls through" all of the statements below the one with the matching `case` expression.

a.	break
b.	exit
c.	switch
d.	scope
e.	None of these

ANS:

19. Whereas < is called a relational operator, x < y is called

a(n)

a.	Arithmetic operator
b.	Relative operator
c.	Relational expression
d.	Largeness test
e.	None of these

ANS:

20. This operator is used in C++ to represent equality.

a.	=
b.	><
c.	!!
d.	==
e.	None of these

ANS:

21. In C++ the = operator indicates

a.	equality
b.	assignment
c.	subtraction
d.	negation
e.	None of these

ANS:

22. If you intend to place a block of statements within an if statement, you must place these around the block.

a.	parentheses ( )
b.	square brackets [ ]
c.	quotation marks ? ?
d.	curly braces { }
e.	None of these

ANS:

23. What will the following segment of code output if 11 is entered at the keyboard?

```
int number;
cin >> number;
if (number > 0)
    cout << "C++";
else
    cout << "Soccer";
    cout << " is ";
    cout << "fun" << endl;
```

a.	C++ is fun
----	------------

b.	Soccer is fun
c.	C++
d.	C++fun
e.	Soccerfun

ANS:

24. What will the following program segment display?

```
int funny = 7, serious = 15;
funny = serious % 2;
if (funny != 1)
{
    funny = 0;
    serious = 0;
}
else if (funny == 2)
{
    funny = 10;
    serious = 10;
}
else
{
    funny = 1;
    serious = 1;
}
cout << funny << "    " << serious << endl;
```

a.	7 15
b.	0 0
c.	10 10
d.	1 1
e.	None of these

ANS:

25. When a program lets the user know that an invalid choice has been made, this is known as:

a.	input validation
b.	output correction
c.	compiler criticism
d.	output validation
e.	None of these

ANS:

26. These operators connect two or more relational expressions into one, or reverse the logic of an expression.

a.	relational
b.	logical
c.	irrational
d.	negation

e.	None of these
----	---------------

ANS:

27. What will the following program display?

```
#include <iostream>
using namespace std;
int main()
{
    int a = 0, b = 2, x = 4, y = 0;
    cout << (a == b) << " ";
    cout << (a != b) << " ";
    cout << (b <= x) << " ";
    cout << (y > a) << endl;
    return 0;
}
```

a.	0 1 1 0
b.	0 0 1 0
c.	1 1 0 1
d.	1 0 0 1
e.	None of these

ANS:

28. This operator is known as the logical OR operator.

a.	--
b.	//
c.	#
d.	
e.	None of these

ANS:

29. This operator performs a logical NOT operation.

a.	--
b.	!
c.	<>
d.	><
e.	None of these

ANS:

30. Given the following code segment, what is output after "result = "?

```
int x = 1, y = 1, z = 1;
y = y + z;
x = x + y;
cout << "result = "
    << (x < y ? y : x)
    << endl;
```



a.	0
b.	1
c.	2
d.	3
e.	None of these

ANS:

31. Which statement allows you to properly check the `char` variable `code` to determine whether it is equal to a "C" and then output "This is a check" and then advance to a new line?

a.	<pre>if code is equal to C     cout &lt;&lt; "This is a check\n";</pre>
b.	<pre>if (code = "C")     cout &lt;&lt; "This is a check" &lt;&lt; endl;</pre>
c.	<pre>if (code == 'C')     cout &lt;&lt; "This is a check\n";</pre>
d.	<pre>if (code == C)     cout &lt;&lt; "This is a check" &lt;&lt; endl;</pre>

ANS:

32. The \_\_\_\_\_ of a variable is limited to the block in which it is declared.

a.	precedence
b.	associativity
c.	scope
d.	branching ability
e.	None of these

ANS:

33. Given that `x = 2`, `y = 1`, and `z = 0`, what will the following `cout` statement display?

```
cout << "answer = " << (x || !y && z) << endl;
```

a.	<code>answer = 0</code>
b.	<code>answer = 1</code>
c.	<code>answer = 2</code>
d.	None of these

ANS:

34. The default section of a `switch` statement performs a similar task as the \_\_\_\_\_ portion of an `if/else if` statement.

a.	conditional
b.	<code>break</code>
c.	trailing <code>else</code>

d.	All of these
e.	None of these

ANS:

35. What is the value of `donuts` after the following code executes?

```
int donuts = 10;
if (donuts != 10)
    donuts = 0;
else
    donuts += 2;
```

a.	12	c.	0
b.	10	d.	2

ANS:

36. What is the value of `donuts` after the following code executes?

```
int donuts = 10;
if (donuts = 1)
    donuts = 0;
else
    donuts += 2;
```

a.	12	c.	0
b.	10	d.	1

ANS:

37. What is the value of the following expression?

```
true && false
```

a.	true	c.	-1
b.	false	d.	+1

ANS:

38. What is the value of the following expression?

```
true && true
```

a.	true	c.	-1
b.	false	d.	+1

ANS:

39. What is the value of the following expression?

```
true || true
```

a.	true	c.	-1
b.	false	d.	+1

ANS:

40. What is the value of the following expression?

false || true

a.	true	c.	-1
b.	false	d.	+1

ANS:

41. What is the output of the following code?

```
int w = 98;
int x = 99;
int y = 0;
int z = 1;
if (x >= 99)
{
    if (x < 99)
        cout << y << endl;
    else
        cout << z << endl;
}
else
{
    if (x == 99)
        cout << x << endl;
    else
        cout << w << endl;
}
```

a.	98	c.	0
b.	99	d.	1

ANS:

42. Which value can be entered to cause the following code segment to display the message "That number is acceptable."

```
int number;
cin >> number;
if (number > 10 && number < 100)
    cout << "That number is acceptable.\n";
else
    cout << "That number is not acceptable.\n";
```

a.	100	d.	0
b.	10	e.	All of these
c.	99		

ANS:

43. Which line in the following program will cause a compiler error?

```
1 #include <iostream>
2 using namespace std;
3
```

```

4  int main()
5  {
6      int number = 5;
7
8      if (number >= 0 && <= 100)
9          cout << "passed.\n";
10     else
11         cout << "failed.\n";
12     return 0;
13 }

```

a.	6	c.	10
b.	8	d.	9

ANS:

44. Which of the following expressions will determine whether x is less than or equal to y?

a.	x > y
b.	x =< y
c.	x <= y
d.	x >= y

ANS:

45. What will be the value of `result` after the following code has been executed?

```

int a = 60;
int b = 15;
int result = 10;
if (a = b)
    result *= 2;

```

a.	10
b.	120
c.	20
d.	This code will not compile

ANS: