**Tutorial 3**

1. What are the outputs for the following expressions?
2. ‘A’ < ‘B’
3. ‘a’ == ‘A’
4. ‘a’ < ’B’
5. If **int1 = 12**, **int2 = 18**, and **int3 = 21**, what is the result of each of the following Boolean expressions?

(a) int1 < int2 && int2 < int3

(b) int1 < int3 || int3 < int2

(c) int1 <= int2 – 6

(d) int2 <= int1 + 5 || int3 >= int2 +5

(e) !(int1 <30)

(f) !(int2 == int1 && int3 == int1)

(g) !(int1 > 25) && !(int2 <17)

1. What is the result for each of the following expression?
2. 1 + 2 \* 4/2
3. (1 + 2) \* 4/2
4. 9 % 2 + 1
5. (1 + (10 – (2 + 1)))
6. 557%8 \* 3 – 9
7. (234/5) \* 4 – 7%3
8. Give the value of a, b and c after each statement is executed when we declared variables as below:

int a, b = 4, c = 0;

* 1. a = ++b - ++c;
  2. a = b-- + --c;
  3. a = b++ + ++c;
  4. b = a = c--;

1. Given the following definitions, which of the following statements are valid assignments?

#define NUM 20

int a, b = 8;

1. a = 6;
2. b = 3;
3. a = b = 24;
4. a = 12 = b;
5. b = b + 3;
6. b = 1 + NUM;
7. 9 = b;
8. b % = 2;
9. a + b = 36;
10. b \* = 10 – b;
11. If initially x = 3, y = 4, z = 5, what is the value of each of the following expressions?
12. x + 2 / 3 + y
13. 2 – (x + z) % 2 + 4
14. y ++ + z-- + x++
15. x++ - ++y
16. ++x - --z
17. --x + ++y – z--
18. If x = -4, y = 5 and z = 0, determine whether the following expressions is TRUE or FALSE.
19. ! ( 2 + 7 \* y >= z – 4 )
20. x + 2 || z < ( y – 3 ) && y
21. 3 \* x / 4 % y && !z
22. y – 2 \* z < x \* 2 / 3
23. Correct the error(s) in each of the code segments below.

(a) if ( 1 < x < 5 )

cout << x;

(b) int x;

cin >> x;

if (x%2 = 0)

cout << "You entered an even number.";

(c) string s;

getline(cin,s);

if (s < 10)

cout << "Your phrase is less than 10 letters long.";