**Tutorial 6**

1. Evaluate the value of the following expressions:
2. fabs(9.5)
3. fabs(-2.4)
4. fabs(-7.1)
5. abs(1)
6. abs(-2)
7. floor(2.9)
8. floor (-1.1)
9. ceil(-1.1)
10. ceil(0.224)
11. floor(3.45 \* 100 + 0.5) / 100
12. pow(3,4)
13. pow(9.0, 3.0 / 2)
14. sqrt(144)
15. Write the C++ expression that will generate a random number in the range of

(a) 30 to 50 (b) 1-10 (c) 1000-9999

1. Define the range of the random numbers generated by the following expressions:
2. rand( ) % 7
3. rand( ) % 6 + 1
4. rand ( ) % 32 –10
5. Write a C++ program that generates a random number from the following set :
6. 1, 2, 3, ……, 40, 41, 42
7. 1, 4, 7, 10, 13, 16
8. Evaluate the output of the following expressions:

char X = 'X', Y = 'Y', a = 'a', b = 'b';

1. isalpha(X)
2. isdigit(Y)
3. islower(a)
4. isupper(b)
5. tolower(X);
6. toupper(Y);
7. Write the output for each of the following segments of code.

(a) string name = "Sam Gamgee";

name.erase (3,3);

cout << name << endl;

name.insert (2,"hi");

cout << name << endl;

(b) string b = "Gandalf";

cout << b.substr(3,3);

cout << b << endl;

b.insert(0, "Hello ");

cout << b << endl;

1. Given the following variable declarations:

char a[50] = "BACS 1014";

char b[10] = {'b','a','c','s','\0','1','0','1','4','\0'};

char \*p = "Hello";

const char \*p1 = "And ";

const char \*p2 = "I think to myself.";

char temp[100];

What will be printed when the following C++ statements are performed?

1. cout << strlen(a) << ", " << strlen(b) << ", " << strlen(p) << endl;
2. strcpy (temp, p2);

cout << temp << endl;