Basic C++ - Part III

3

WEEK

KEYWORDS:

cmath.h string.h pow

LAB EXERCISE:

Program1:

Type the following program in the editor of the C++ environment. Compile the program and run it.

```
#include<iostream>
#include<cmath>
#include<string>

using namespace std;

int main()
{
	double u, v;
	string str;

	cout  <<"Line 1: 2 to the power of 6 = "<<static_cast<int>(pow(2.0,
	6.0));                                  //Line 1
	cout << endl;

	u = 12.5;                               //Line 2
	v = 3.0;                                //Line 3

	cout  <<"Line 4: "<<  u  <<" to the power of "<< v    <<" = "<< pow(u,
	v);                                     //Line 4
	cout << endl;

	cout  <<"Line 5: Square root of 24 = "<<  sqrt(24.0); //Line 5
	cout << endl;

	u = pow(8.0, 2.5);                      //Line 6

	cout  <<"Line 7: u = "<<  u;            //Line 7
	cout << endl;

	str = "Programming with C++";           //Line 8
	cout  <<"Line 9: Length of str = "<<  str.length(); //Line 9
	cout << endl;

	system("PAUSE");
	return 0;
}
```

Output:

Line 1: 2 to the power of 6 = 64
Line 4: 12.5 to the power of 3 = 1953.12
Line 5: Square root of 24 = 4.89898
Line 7: u = 181.019
Line 9: Length of str = 20

ASSIGNMENT:

Question 1: Suppose x and y are int variables and ch is a char variable. Consider the following input:
5 28 36

What value (if any) is assigned to x, y, and ch after each of the following statements executes? (Use the same input for each statement.)

a. cin >> x >> y >> ch; **x** = 5 **y** = 28 **ch** = 36 in ASCII
b. cin >> ch >> x >> y; **x** = 28 **y** = 36 **ch** = 5 in ASCII
c. cin >> x >> ch >> y; **x** = 5 **y** = 36 **ch** = 28 in ASCII

Question 2: Write a program that will compute the area of a circle. The user must enter the radius of the circle. Use the following formula for area $A = 3.14\ R^2$.

Code:

```
#include <iostream>
#include<cmath>
using namespace std;
int main() {
double R , Area;
cout<<"Enter the Radius : ";
cin>>R;
Area=3.14*pow(R , 2);
cout<<"the area is : "<<Area;
return 0;
}
```

Question 3: Develop the program that will convert the temperature from degree Celsius to degree Fahrenheit. User input the temperature in Fahrenheit. The relation is F= (5/9)*C - 32

Code:

```
#include <iostream>
#include<cmath>
using namespace std;
int main() {
double C , F;
cout<<"enter the  degree Celsius : ";
cin>>C;
F= (5.0/9.0)*C - 32;
cout<<"the degree Fahrenheit is :"<<F;

return 0;
}
```