**PRACTICAL # 02**

**OBJECT:**

C# Datatypes and variables

**THEORY:**

Data types are especially important in C# because it is a strongly typed language. This means that, as a general rule, all operations are type-checked by the compiler for type compatibility. Illegal operations will not be compiled.

**Program:**

This C# program computes the distance between Earth and sun.

// Compute the distance from the Earth to the sun, in inches.

*using System;*

*class Inches {*

*static void Main() {*

*long inches;*

*long miles;*

*miles = 93000000; // 93,000,000 miles to the sun*

*// 5,280 feet in a mile, 12 inches in a foot.*

*inches = miles \* 5280 \* 12;*

*Console.WriteLine("Distance to the sun: " +*

*inches + " inches.");*

*}*

*}*

Use MS Visual Studio, or the command line compiler discussed in the previous lab to compile and execute this program.

The program below demonstrates the usage of byte datatype.

*class Use\_byte {*

*static void Main() {*

*byte x;*

*int sum;*

*sum = 0;*

*for(x = 1; x <= 100; x++)*

*sum = sum + x;*

*Console.WriteLine("Summation of 100 is " + sum);*

*}*

*}*

**Escape characters:**

C# provides special escape sequences, sometimes referred to as backslash character constants. These sequences are used in place of the characters they represent.

For example, the following assigns ch the tab character:

ch = '\t';

The next example assigns a single quote to ch:

ch = '\'';

**The Scope and Lifetime of Variables:**

C# allows a local variable to be declared within any block.

**ACTIVITIES**

**Activity 1**

Write a program that calculates an int product variable to calculate product of numbers between 1 to 100.

**Activity 2**

Write a program that shows whether a given year is a leap year or not. (February is 29 days in a leap year. A leap year is a multiple of 4 )

**REVIEW QUESTIONS**

1. Why datatypes are important in C#?
2. Which datatypes are supported in C#?
3. What are escape characters?
4. What type of variable names in C# are illegal?
5. What is scope and lifetime of C# variables?