Language : Means of communication

Language :

Grammer / Syntax

Keywords ( Character Set)

Translator : When people who are communications dont not know each other language

Any Person who knows both languages

German (german) Translator French

Programming Language : means of communication between machine and a person

Java Translator Machine

C# Translator

C++ Translator

How DotNet Framework is evolved???

Dos (OS) > CUI

Md

Cd

Rd

Copy con

Windows 3.1 (OS) > Graphical Interface

It was easy to work

Languages : COBOL, Basic , C , C++ > Character based

Basic > Visual Basic

C++ > Visual C++

Why not combine these languages into a single platform??

DotNet Framework > It is a framework (collection of classes) under which we have gathered so many features

* Multiple Language Support

C# , Vb.Net

To make programs we need some editor

1. Notepad : No Intellisense

2. Visual Studio Code

3. Visual Studio 2019 : It’s a complete IDE : Integrated Development Environment

Components of DotNet Framework

CLR : Common Language Runtime : Gives you runtime environment for executing your dotnet programs

Garbage Collection

Memory Allocation

Type Safety

Compilation of Code

CTS CLS

Common Type System

Common Language Specification

Compilation of Code : Converting Code from one to other form

In Java or any other language , compilation happens in 1 step

Source code > Object Code

DotNet > 2 steps needed to convert program from a language to binary form

Why??

C# > C# compiler

VB.Net > VB. Compiler

Source Code -------🡪 Common Form(Understood by DotNet Runtime) ------> Binary Form

Learn c# .net structure expanded

IL > Intermediate Language

MSIL > Microsoft IL > Understood by CLR

After this CLR does compilation to Binary form using JIT Compilation

CTS > Common Type System

CLS > Common Language Specifications

JIT > The needed statements are converted not the entire program

1

2

3

4

5

Solution > It’s a container for multiple projects

Program

#include <stdio.h>

Main()

{

}

Using System; -- namespaces / dll which contains other subnamespces or classes

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Demo // Project Name

{

class Program

{

static void Main(string[] args)

{

Console.WriteLine("Hello"); // Console is a class

// WriteLine is a method

}

}

}

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Demo

{

class Program

{

// Intellisense

static void Main(string[] args)

{

int x, y;

x = 10;

y = 20;

Console.WriteLine(x + y);

}

}

}

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Demo

{

class Program

{

// Intellisense

static void Main(string[] args)

{

int x, y;

x = 10;

y = 20;

Console.WriteLine(x + y);

Console.WriteLine(x - y);

Console.WriteLine(x / y);

Console.WriteLine(x \* y);

}

}

}

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Demo

{

class Program

{

// Intellisense

static void Main(string[] args)

{

int x, y;

x = 10;

y = 20;

Console.WriteLine("Sum of " + x + " and " + y + " is " + (x+y));

Console.WriteLine("Difference of " + x + " and " + y + " is " + (x - y));

Console.WriteLine("Product of " + x + " and " + y + " is " + x \* y);

Console.WriteLine("Quotient of " + x + " and " + y + " is " + x / y);

}

}

}

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Demo

{

class Program

{

// Intellisense

static void Main(string[] args)

{

int x, y;

x = 10;

y = 20;

// Printf("%d and %d is %d", x,y,x+z);

// positional parameters

Console.WriteLine("Sum of {0} and {1} is {2} ", x,y,(x+y));

Console.WriteLine("Difference of {0} and {1} is {2}",x,y,(x - y));

Console.WriteLine("Product of {0} and {1} and {2} " , x,y ,x \* y);

Console.WriteLine("Quotient of " + x + " and " + y + " is " + x / y);

}

}

}

Type of Statements are :

1. Sequential
2. Iterative/Repetitive
3. Conditional/Decision Based

Condition

If

If else

If else if else if

switch

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Demo

{

class Program

{

// Intellisense

static void Main(string[] args)

{

int x, y;

x = 10;

y = 20;

int ch = 3;

if(ch==1)

Console.WriteLine("Sum of {0} and {1} is {2} ", x,y,(x+y));

else if(ch==2)

Console.WriteLine("Difference of {0} and {1} is {2}",x,y,(x - y));

else if(ch==3)

Console.WriteLine("Product of {0} and {1} and {2} " , x,y ,x \* y);

else if(ch==4)

Console.WriteLine("Quotient of " + x + " and " + y + " is " + x / y);

else

Console.WriteLine("Invaid Statement");

}

}

}

System.String name;

string name1;

System.Int16 x1;

int x, y;