**C# (C Sharp)**

It is an object-oriented programming language created by Microsoft that runs on the .NET Framework.

C#Syntax

using System;

namespace HelloWorld

{

class Program

{

static void Main(string[] args)

{

Console.WriteLine("Hello World!");

}

}

}

## C# Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| **Data Type** | **Size** | **Description** | **Example** |
| bool | 1 bit | Stores true or false values | flag = true; |
| char | 2 byte | Stores a single character/letter, surrounded by single quotes | letter = ‘A’; |
| string | 2 bytes per character | Stores a sequence of characters, surrounded by double quotes | str = “Hariharan” |
| int | 4 bytes | Stores whole numbers from (-2,147,483,648) to 2,147,483,647 (around 9 digits we can store) | n = 123456789 |
| long | 8 bytes | Stores whole numbers from -9,223,372,036,854,775,808 to 9,223,372,036,854,775,807 (around 18 digits we can store) | n = 123456789123456789 |
| float | 4 bytes | Stores fractional numbers. Sufficient for storing 6 to 7 decimal digits |  |
| double | 8 bytes | Stores fractional numbers. Sufficient for storing 15 decimal digits |  |

## C# Output Statement:

## Console.WriteLine(); == Console.Write(“\n”);

## Console.Write();

## Console.WriteLine(“hello world”);

## Console.WriteLine(a);

## Console.WriteLine(a+b);

## Console.WriteLine(“hello ” + name);

## C# Input Statement:

## Console.ReadLine(); 🡺 get input from new line

## Console.Read(); get input from last ended line

## Int age = Console.Read();

## C# Comments Statement:

## single line comment:

## // =>

## Multi line comment:

## /\* \*/

## C# Type Casting:

## Type casting is when you assign a value of one data type to another type.

## OPERATORS:

## Arithmetic Operators:

## Arithmetic operators are used to perform common mathematical operations:

## Assignment Operators:

## Comparison Operators:

## Logical Operators:

## As with comparison operators, you can also test for True or False values with **logical operators**.

## Arrays:

## To declare an array, define the variable type with **square brackets**

## **Ex: string[] str;**

## **TYPE 1: string[] names = {“Hariharan”, “raj”, “ramu”};**

## **TYPE 2: string[] names = new string[5] {“hari”, “haran”, “raj”, “ram”, “ravi”};**

## **TYPE 3: string[] names;**

## **names = new string[5] {“hari”, “haran”, “raj”, “ram”, “ravi”};**

## **TYPE 4: string[] names = new string[5];**

## **names[0] = “hari”;**

## **names[1] = “haran”;**

## **names[2] = “raj”;**

## **names[3] = “ram”;**

## **names[4] = “ravi”;**