**What are Data Types in C#?**

In C#, **data types** define the kind of data that can be stored and manipulated within a program. They specify the type of data a variable can hold, such as integers, floating-point numbers, characters, or strings. C# is a strongly-typed language, which means that you must declare the type of data a variable will store, and type safety is enforced at compile time.

**Categories of Data Types in C#**

1. **Value Types**: These types store data directly. They include:
   * **Numeric Types**: int, float, double, decimal, byte, short, long, uint, ulong
   * **Boolean Type**: bool
   * **Character Type**: char
   * **Structs**: User-defined structures
2. **Reference Types**: These types store references to the data. They include:
   * **Strings**: string
   * **Arrays**
   * **Classes**: User-defined classes
   * **Delegates**: Types that reference methods
3. **Special Types**:
   * **Object**: The base type for all types in C#

**Example of Data Types in C#**

Here is an example that demonstrates the use of different data types in C#:

using System;

class Program

{

static void Main(string[] args)

{

// Value Types

int age = 25; // Integer type

float height = 5.9f; // Floating-point type

double weight = 68.5; // Double-precision floating-point type

decimal salary = 50000.75m; // Decimal type

bool isEmployed = true; // Boolean type

char initial = 'A'; // Character type

// Reference Types

string name = "Alice"; // String type

int[] numbers = { 1, 2, 3 }; // Array type

// Displaying values

Console.WriteLine($"Name: {name}");

Console.WriteLine($"Age: {age}");

Console.WriteLine($"Height: {height} meters");

Console.WriteLine($"Weight: {weight} kg");

Console.WriteLine($"Salary: {salary:C}"); // Formatted as currency

Console.WriteLine($"Employed: {isEmployed}");

Console.WriteLine($"Initial: {initial}");

Console.WriteLine($"Numbers: {string.Join(", ", numbers)}");

// Object type example

object obj = "This is an object type";

Console.WriteLine($"Object: {obj}");

}

}

**Explanation:**

1. **Value Types**:
   * int, float, double, decimal, bool, and char are examples of value types that hold data directly.
2. **Reference Types**:
   * string and arrays are reference types. They hold references to data rather than the data itself.
3. **Object Type**:
   * object is the base type from which all other types derive. It can hold any data type, and it provides a way to store values of different types in a single variable.