

VARIABLES AND DATA TYPES

Teacher: Syed Muhammad Arsalan Shah

Typist: Yousuf Naveed Khan

Introduction to Variables and Data Types

In programming, variables are containers for storing data values. Each variable in C# has a specific data type, which determines the type of data it can store.

Variables

Variables are fundamental to programming in C#. They hold different types of data, such as numbers, characters, and strings.

Declaration of Variables

In C#, variables are declared using the following syntax:

```
datatype variableName = value;
```

Here, `datatype` represents the type of data the variable can store, `variableName` is the name of the variable, and `value` is the initial value assigned to the variable.

Common Data Types in C#

Char: A single alphabet is called a character, and a sequence of alphabets is called a string.

1. **char:** Used to store single characters.

```
char varname = 'value';
```

2. **string:** Used to store sequences of characters.

```
string varname = "value";
```

3. **int:** Used to store integer numbers.

```
int varname = value;
```

4. **double:** Used to store decimal numbers.

```
double varname = value;
```

5. **bool:** Used to store boolean values (true/false).

```
bool varname = true/false;
```

Print Statement

Printing output in C# is done using `Console.WriteLine()` and `Console.Write()`.

- `Console.WriteLine()` adds a line break after printing.
- `Console.Write()` does not add a line break after printing.

Taking User Input

To take input from the user, we use `Console.ReadLine()`.

```
Console.WriteLine("Enter Your Name");  
string name = Console.ReadLine();
```

In this example, the program prompts the user to enter their name, and then it reads the input provided by the user and stores it in the variable `name`.

Online Compiler Setup: Replit

To begin coding in C#, follow these steps:

1. Navigate to [Replit](https://replit.com/languages/csharp) (<https://replit.com/languages/csharp>).
2. If you don't have an account, sign up for one. If you do, simply log in.
3. Once logged in, click on "Create Repl" to start a new project.
4. Select "C#" as your programming language.
5. Provide a title for your project.
6. Click on "Create" to create your C# project.

Now you're all set to write and execute C# code using **Replit**!

Conclusion

Understanding variables and data types is essential for writing effective C# programs. They form the building blocks of any C# application, allowing developers to manipulate and process data efficiently.