What are Variables?

This lesson informs about what variables are and the acceptable variables names.

WE'LL COVER THE FOLLOWING

Introduction

A variable in any programming language is a named piece of computer memory, containing some information inside.

> Think of a variable as a box with a name, where we can *"store"* something.

We create, edit and delete variables, as much as we need in our tasks. They are **devices** that are used to store data, such as a number, or a string of character data.

Naming your Variables

Programmers use *symbolic* names to describe variables in their minds, for instance:

- "the depth of the snow on the mountain"

or

- "the amount of money in the customer's bank account".

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> **Note:** The compiler assists programmers by managing the relationship between the symbolic and numeric representations of the locations of variables to reduce the number of errors that programmers would surely make if there were required to refer to every variable they have in mind purely by its current location in the memories of their computers.

C# requires the programmer to use names constructed solely from letters chosen from **a through z**, **A through Z**, and numbers are chosen from **0 through 9**. C# considers uppercase letters to be different from lowercase letters.

> **Important Note:** Names must start with a small letter.

Thus C# allows:

`a`

to be used as a variable name. Some examples of types of variable names that are permitted by C# include:

```
using System;

class Program {
  static void Main() {
    int a=2;
    char A='b';
    float rt345=2.3F;
    double squareArea=6.5; //camelCase
    Console.WriteLine("Value of a is {0}",a);
    Console.WriteLine("Value of A is {0}",A);
    Console.WriteLine("Value of rt345 is {0}",rt345);
    Console.WriteLine("Value of squareArea is {0}",squareArea);
  }
}
```

The convention usually followed for variable naming is `camelCase`, which means that the first letter remains small and every alphabet for the new word in the phrase begins with a capital letter; such as: `squareArea`.

Customer's account balance is not a valid variable name in C# because it contains spaces which are not allowed and because it contains an apostrophe which is also not permitted by C# in variable names.

Now that you have background information on variables in C# let's learn about how variables are stored in memory in the next lesson.