VARIABLES

Certainly! Let's delve into the world of C variables with detailed explanations, real-life examples, and coding snippets.

1. Creating Variables in C:

In C, variables are used to store and manipulate data. To create a variable, you declare its type and name:

A variable is created by specifying its data type followed by a unique name. For example, to create an integer variable named `age`, you would write:

```c
int age;
```

Coding Example:

```c
#include <stdio.h>

int main() {
```

```c
    // Creating an integer variable named 'age'

    int age;


    // Rest of the code...

    return 0;

}
```

2. Formatting Variables in C:

Formatting involves assigning a value to a variable. This is done using the assignment operator (`=`):

To assign a value to the variable `age`, you would use the assignment operator like this:

```c
age = 25;
```

Coding Example:

```c
#include <stdio.h>
```

```c
int main() {

    // Creating an integer variable named 'age'

    int age;


    // Formatting 'age' with a value of 25

    age = 25;


    // Rest of the code...

    return 0;

}
```

3. Changing Variables in C:

Variables can be modified by assigning new values to them:

If you want to change the value of `age` to 30, you would reassign it:

```c
age = 30;
```

```
```c
#include <stdio.h>

int main() {
    // Creating an integer variable named 'age'
    int age;

    // Formatting 'age' with a value of 25
    age = 25;

    // Changing the value of 'age' to 30
    age = 30;

    // Rest of the code...
    return 0;
}
```

4. Using Multiple Variables in C:

You can declare and use multiple variables of different types in a program:

For instance, to create two integer variables `height` and `width`:

```c
int height, width;
```

```c
#include <stdio.h>

int main() {
    // Creating two integer variables named 'height' and 'width'
    int height, width;

    // Formatting 'height' and 'width' with values
    height = 10;
    width = 5;

    // Rest of the code...
    return 0;
}
```

```
```

5. Real-Life Examples in C:

Consider a program to calculate the area of a rectangle using variables:

```c
int length, breadth, area;
```

```c
#include <stdio.h>

int main() {
    // Creating variables for length, breadth, and area
    int length, breadth, area;

    // Formatting length and breadth with values
    length = 10;
    breadth = 5;
```

```
    // Calculating the area of the rectangle

    area = length * breadth;


    // Rest of the code...

    return 0;

}
```

These examples illustrate the fundamental aspects of working with variables in C, from creation and formatting to changing values and using multiple variables in real-life scenarios.