C Language

Chapter # 9

Elements of C language

Lecture: 15

Today's Lecture

- Type Casting

1. Implicit Type Casting
2. Explicit Type Casting

Type Casting

- The process of converting the data type of a value during execution is known as type casting. Type casting can be performed in two ways.

1. Implicit Type Casting
2. Explicit Type Casting

Implicit Type Casting

- Implicit type casting is performed automatically by the C compiler. The operands in arithmetic operation must be of similar types. If the data type of the operand are different, the value of the lower data type is converted into higher data type.

Example:

Suppose x is an integer variable and y is a long variable and the following expression is evaluated: x + y

In the above expression, data type of x is lower than the data type of y. So the value of x will be converted into long during the evaluation of expression. The data type of x is not changed. Only the data type of value of x is changed during the evaluation of the expression.

Explicit Type Casting

- Explicit type casting is performed by programmer. It is performed by using cast operator. The cast operator tells the computer to convert the data type of the value.

Syntax: (type) expression;

Example:

Suppose x and y are two float variables. x contains 10.3 and y contains 5.2 and the following expression is evaluated. x % y

The above expression generate an error because data type of x and y is float. The modulus operator cannot work with float variables. It only works with integers.

~~x % y~~ (int) x % (int) y

The value of x will be converted to 10 and value of y will be converted to 5. So the result of above expression is 0.

Explicit Type Casting

```
#include<stdio.h>
#include<conio.h>
main()
{
   float a, b;
   int c;
   a = 10.3;
   b = 5.2;
   c = (int) a % (int) b;
   printf("Result is %d", c);
}
```

The End

Read this topic from your books and ask question if any confusion.

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