

## Lecture 4: Variable scope and data type.

### ★ Types of Variable

1) int    2) float    3) char    4) Double  
5) Boolean.

★ int  $\rightarrow$  1, 2, 3, -1, -2

★ float  $\rightarrow$  store decimal  $\rightarrow$  1.2, 3.77

★ char  $\rightarrow$  'a', 'b', 'c', 'd'  $\rightarrow$  EK bite

★ Double  $\rightarrow$  store more decimal  
 $\rightarrow$  1.218578

★ Boolean  $\rightarrow$  True or false.

— int sum = 34;  
sum variable has value 34.

### ★ Syntax for declaring variable;

Data type — variable name = value;

Eg int a = 2

float b = 2.15

char c = 'd'

int a = 4, b = 6;

★ Scope : 1) local variable    2) Global variable

## ★ Variable scope:

- scope of a variable is the region in code where the existence of variable is valid
- Based on scope we have local and global variable in C++

★ Local Variable: Local variables are declared inside the braces of any function and can be accessed only from there.

★ Global Variable: Global variables are declared inside any function and can be accessed from anywhere.

★★ Local and global variables can have the same variable name.

## ★ Types of Data type:

- Built in  $\rightarrow$  int float char.
- User defined
- Derived.

★ int  $\rightarrow$  0, 1, 4, 7

float  $\rightarrow$  low decimal precision  $\rightarrow$  3.17

double  $\rightarrow$  high decimal precision  $\rightarrow$  3.74895

char  $\rightarrow$  'c' 'd' 'l'

boolean  $\rightarrow$  True or false.



## ★ User defined data type:

- struct
- union
- Enum.

## ★ Derived data types:

- Array
- Function
- Pointer

## ★ Rules of declaring variable name in C++

- Variable name in C++ can range from 1 to 255 character
- All variable <sup>name</sup> must begin with a letter of the alphabet or underscore.
- After the first initial letter, variable name can also contain letter and numbers.
- Variable name are case sensitive
- No space or special character are allowed
- You cannot use a C++ keyword (i.e. reserved word) as a variable name.