



## VARIABLES IN C++

- A Variable is a container to hold data
- Variable can be of various types. Primarily we have these variable types in C++:
  1. Int
  2. Float
  3. Char
  4. Double
  5. Boolean
- `int sum = 34;` means sum is an integer variable which holds value 34 in memory

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## VARIABLES IN C++

- ✓ A Variable is a container to hold data
- ✓ Variable can be of various types. Primarily we have these variable types in C++:
  1. Int ✓ *-1, 1, 0, 7, 8, 1, 112*
  2. Float ✓ *1.21 3.77*
  3. Char ✓ *'a' 'd' 'c'*
  4. Double ✓ *1.218...*
  5. Boolean ✓ *True or False*
- ✓ `int sum = 34;` means sum is an integer variable which holds value 34 in memory



## SYNTAX FOR DECLARING VARIABLES IN C++

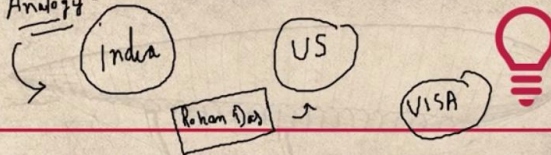


- ✓ **Data\_type Variable\_name = Value;** *int a = 4; char letter = '0';*
- ✓ Ex. Int a = 4, b = 6;
- ✓ Based on Scope, variable can be classified into two types:
  1. Local Variables ✓
  2. Global Variables ✓



## VARIABLE SCOPE

Analogy:



- ✓ Scope of a variable is the region in code where the existence of variable is valid.
- ✓ Based on scope we have local and global variables in C++
- ✓ **Local Variables:** Local variables are declared inside the braces of any function and can be accessed only from there.
- ✓ **Global Variables:** Global variables are declared outside any function and can be accessed from anywhere.
- Can global and local variable have same name in C++? :Yes, we will see!



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## C++ DATA TYPES

✓ Data types define the type of data a **variable** can hold, for example an integer variable can hold integer data, a character type variable can hold character data etc.

✓ Data types in C++ are categorised in three groups:

- ✓ Built-in
- ✓ User-defined
- ✓ Derived.

int  
float  
char  
double  
bool

09:08 28:32

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## BUILT IN DATA TYPES IN C++



- Int → 0 1 2 3 4 5 6 7 8 9 10
- Float → 1.22, 1.33 Decimal numbers of low precision.
- Char → 'D' 'G' 'L' 'P' 'K'
- Double → 3.7489... D N O H P
- Bool → true, false

D N O H P → Decimal number of high precision

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## USER DEFINED DATA TYPES IN C++

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- ✓ Struct
- ✓ Union
- ✓ Enum

**Note:** These will be covered separately in different videos. For now understanding that these are the user defined data types should do!



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## DERIVED DATA TYPES IN C++

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- ✓ Array
- ✓ Function
- ✓ Pointer

**Note:** These will be covered separately in different videos. For now understanding that these are the derived defined data types should do!





## RULES TO DECLARE VARIABLES IN C++

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- Variable names in C++ can range from 1 to 255 characters.
- All variable names must begin with a letter of the alphabet or an underscore(\_).
- After the first initial letter, variable names can also contain letters and numbers.
- Variable names are case sensitive.
- No spaces or special characters are allowed.
- You cannot use a C++ keyword (a reserved word) as a variable name.