**Chapter – 1**

1. **#include<iostream>**

This is header file, helps in input, output and other various function

1. **Int main(){**

**}**

This is main file. Program starts executing from main function. ‘Int’ is the return type.

1. **Variables**

It is a container to hold data

5 types 🡪

1. Int
2. Float
3. Char
4. Double
5. Boolean
6. Based on **Scope**, variables are of 2 types
7. Local Variables
8. Global Variables

Scope is region in code where existence of variable is valid

Local Variables are declared inside the braces of any function and can be accessed only from there

Global Variables are declared outside any function and can be accessed from anywhere.

Global and local variable can have same name

1. Data types define the type of data a variable can hold

3 types 🡪

1. Built-In
2. User-defined
3. Derived
4. Variable names in C++ range from 1 to 255 characters
5. All variable names must begin with a letter of alphabet or an underscore (\_).
6. After the first initial letter, variable names can also contain letters and numbers.
7. Variable names are case sensitive.
8. No spaces or special characters are allowed.
9. Don’t use reserved keywords as variable name.
10. **Using namespace std;**

We use this so that we don’t have to write std::cout every time

Std::cout<<”Hello”;

If we use namespace std

Then simply we write cout<<”Hello”;

***BASIC INPUT/OUTPUT***

* C++ comes with libraries for input/output
* **INPUT STREAM 🡪** Direction of flow of bytes takes place from input device to main memory
* **OUTPUT STREAM 🡪** Direction of flow of bytes takes place from main memory to output device
* **<<** is Insertion Operator and **>>** is Extraction Operator

1. **There are 2 types of header files**
2. System header files: It comes with compiler like #include<stdio.h>
3. User Defined Header files: It is written by programmers.
4. **Operators in C++**
5. **Arithmetic Operators 🡪** +, -, \*, /, %, num++, num--, ++num, --num, %(modulo)
6. **Assignment Operators 🡪** Used to assign values to variables. E.g. int a = 5, char c = ‘g’;
7. **Comparison Operators 🡪** ==, >, <, <=, >=, !=
8. **Logical Operators 🡪** &&, ||, ! (not operator)
9. **Manipulators**

We use #include<iomanip>

Like endl, setw // see in VSCODE

1. **Control Structure**
2. **Sequence Structure 🡪** Code Executes in order in which we have written
3. **Selection Structure 🡪** Using if statement, if else, switch
4. **Loop Structure 🡪** while loop, for loop, do-while loop