1.

Variables, Literals & Constant

Let's write our very first C++ program to Create a file Called hello.cpp & past the below Code on it.

```
#include<iostream>
using namespace std;
int main() {
        cout<<"Hello I am Learning cpp
                With Tejas";
       return 0;
}
```

First Compaile this file by typing g++ hello.cpp & it will Compile the file & will Create the hello.exe file (binary) Now simply type the .\hello.cpp on a terminal & press the enter & you will see someting priented on a screen.

C++ Variables

In programming, a Variables is a Container (store area) to hold data.
To indicate the storage area, each variable should be given a unique name (identifier) for example,

```
int age = 20
```

Here, age is a Variable of the int data type, & we have assigned an integer value 20 on it.

Rules for naming a Variables

- A Variable name Can only have alphabets, numbers, & the underscore '_'.

- A Variables name Cann't begein with a number.

- It is a preferred practice to begein Variable name with a lowercase characters. For example, name is preferable to name.

- A Variable name Cannot be a keyword. For example, int is a keyword that is used to donate integers.

- A Variables name can start with an underscore. However, it's not considerd a good practice.

Note:
We should try to give meaningful names to Variables. For Example fist_name is a better variable name than fn.

C++ Literals

Literals are used for representing fixed value. They can be used directly in the code for example 1, 2.5, 'c' etc.

Here's a list of different literals in C++ programming.

1] Integer
2] floting-point
3] Characters
4] Escape sequences
5] String Litrals

Escape sequences	Characters
\b	Backspace
\f	form feed
\n	new line
\t	Horizental Tab
\v	Vertical tab
\r	Return
\\	Backslash.

C++ Constant

In C++ we Can Create a Variables Whose values Cannot be changed. for that we use the Const keyword.

```
Const int LIGHT_SPEED = 299743;
LIGHT_SPEED = 2500 // Error!
```

Quick Quiz:

Use a different data type & print some statement, using sequence char.

C++ Basic Input/Output

In C++, Cout sends formatted output to standard output devices, such as the screen. We use the cout along with the << operator for displaying output.

C++ Input

In C++, Cin takes formatted input from standard input devices such as the keybord. we use the cin object along with the >> operator for taking input.

C++ Data Types

In C++, data types are declaration for variables. This determines the type & size of da associated with variables. For Example

```
int age = 13;
```

Here, age is a variables of type int. Meaning, the variables can only store integer of either 2 or 4 bytes.

C++ fundamental Data Types

The table below shows the fendamental data types,

Data Type	Meaning	Size (in Bytes)
int	Integer	2 or 4
float	floting-point	4
double	Double floting point	8
char	characters	1
wchar_t	wide characters	2
bool	Boolean	1
void	Empty	0

C++ Operators

Operators are symbol that perform operation on variables & values. For example + is an operator used for addition, while - is a operator for substraction.

Operators in C++ can be classified into 6 types.

1. Arithmatic operator. → +, -, *, /, %
2. Assignment oprator → =, +=, -=, *=, /=, %=
3. Relational oprator → =, !=, >, <, >=, <=
4. Logical operators. → &&, ||, !
5. Bitwise operators. → &, |, ^, ~, <<, >>
6. other operators. → sizeof, ?:

C++ Comments

C++ Comments are hints that a programmer can add to make their code easier to read & understand. They are complately ignored by CPP Compailer.

There are two ways to add Comments in code:

A] // - Single Line Comments
B] /* */ - Multi Line Comments.

Date

Practice Set

1. Write a Cpp program to find the area of Rectangle.

   a] Hard Code
   b] User Input.

2. Write a Cpp program to Calculate the simple Interest.

3. Write a program to find the sum of average of three numbers.

4. Write a simple Cpp program to add substract multiply & Divide Two numbers.