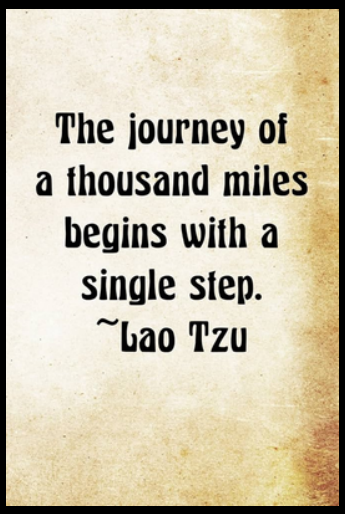
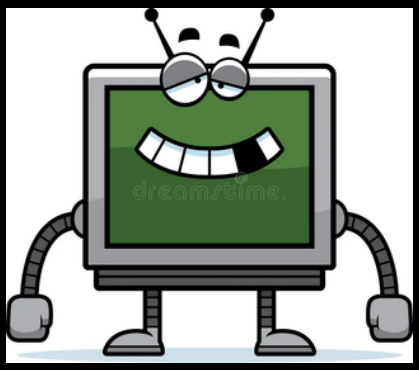
INTRODUCTION TO C++



PLAN FOR TODAY

- How computers think?
- Why programming languages exist?
- Writing our first C++ code
- Rules of printing
- Data types & operators
- Taking input
- Making decisions (if-else)
- Assignments walkthrough

WHAT IS PROGRAMMING?



WHY PROGRAMMING LANGUAGES EXIST?

IDE & IMPORTANCE OF SYNTAX

FIRST C++ CODE (HELLO WORLD)

```cpp
#include<bits/stdc++.h>
using namespace std;

int main()
{
    cout << "Hello world";
}
```

SOME IMPORTANT RULES TO REMEMBER

- Semicolon: Every statement must end with ;
- Case Sensitive: cout will work, but COUt will not.
- Printing Text: Text must be inside double quotes.
- New Line: For a new line, use endl.
- Brackets Come in Pairs

ARITHEMATIC OPERATORS

Operator	Meaning
+	Add
-	Subtract
*	Multiply
/	Divide
%	Remainder

VARIABLES

A variable is a named box in the computer’s memory where we store some data.

DATA TYPES (FOUNDATION)

Type	Use
`int`	Whole numbers
`long long`	Big numbers
`double`	Decimal
`char`	Single character
`bool`	true / false

SOME IMPORTANT RULES TO REMEMBER

- Variable must be declared before use
- No spaces in variable names
- Case sensitive: marks ≠ Marks
- Name should be meaningful (not x1, a2 everywhere)

TAKING INPUT

RELATIONAL OPERATORS

Operator	Meaning	Example	Result
`>`	Greater than	`5 > 3`	true
`<`	Less than	`5 < 3`	false
`>=`	Greater than or equal to	`5 >= 5`	true
`<=`	Less than or equal to	`4 <= 3`	false
`==`	Equal to	`5 == 5`	true
`!=`	Not equal to	`5 != 3`	true

LOGICAL OPERATORS

CONDITIONALS