

INTRODUCTION TO C++

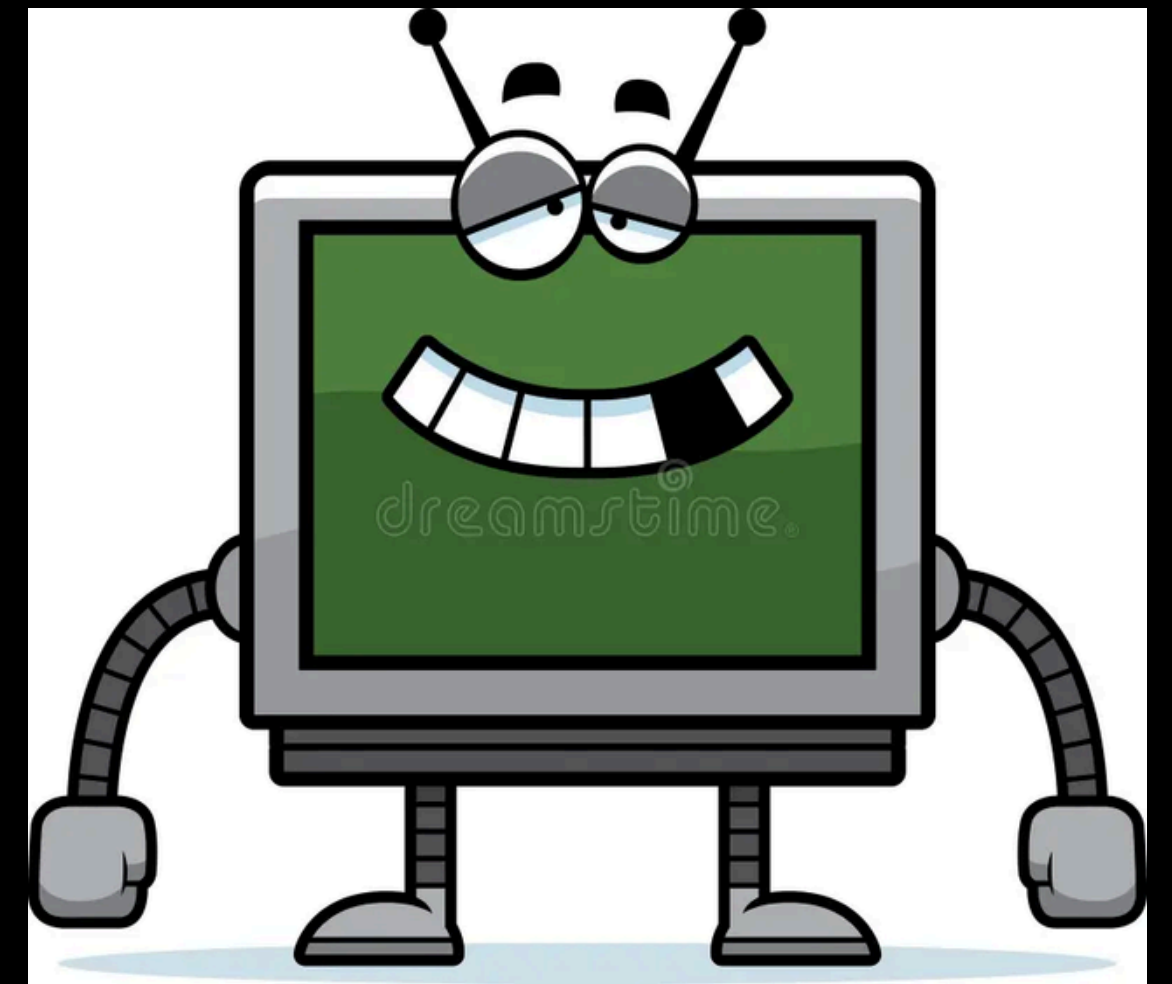
The journey of
a thousand miles
begins with a
single step.
~Lao Tzu

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?



Python



JavaScript



SQL



Java



PHP



C#



C++



TypeScript



Golang



Rust



Ruby



C



Swift



R

IDE & IMPORTANCE OF SYNTAX



FIRST C++ CODE (HELLO WORLD)

```
1  #include<bits/stdc++.h>
2  using namespace std;
3
4  int main()
5  {
6      cout << "Hello world";
7  }
```

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**

ARITHMETIC 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
<code>int</code>	Whole numbers
<code>long long</code>	Big numbers
<code>double</code>	Decimal
<code>char</code>	Single character
<code>bool</code>	true / false

SOME IMPORTANT RULES TO REMEMBER

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

TAKING INPUT

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

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CONDITIONALS

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