→ compiler converts source code into machine executable formate. and then computer run that executable file

Compiler → Translation
↳ Errors.

IDE - Integrated development environment

→ Start program : int main() {...}
this code is belongs to int main.

→ To print :- cout << "Namaste duniya" << endl;
for new line or terminate that line

→ #include <iostream>
↳ Here the functionality of cout is written. so we have to include in our code

→ using namespace std; :- we want to use cout which use namespace std.

→ \n → new line character

→ ; → end your line.

* Data Types & Variables:

```
int a=5;                    ; char ch='a';
```

Data type — variable — value.

Data Type	Size (byte)
int	4 / 2
short	2
float	4
char	1
bool	1
double	8
long	8

* Variable Name: Don't start with number and special character except '_'.

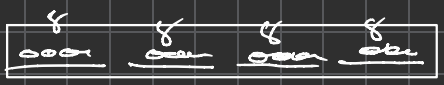
* sizeof(): int a=2;

```
int size = sizeof(a);
cout << size << endl;  → 4.
```

* How data is stored?

int a=8; → binary → store

4 bytes



in Ascii table A = 65
a = 97

* Type casting: int a = 'a';
cout << a << endl;

Implicit
Automatic

Explicit
forcefully.

* How -ve number store?

first bit = 0 → +ve
= 1 → -ve

Steps: -5
↳ ① ignore -ve sign.
② convert into binary
③ Take 2's complement
↳ ① take 1's comp
② Add 1

why 2's comp?

if we just do 1st bit = 0 then +ve
= 1 then -ve
and rest bit determine number
then for 0 we have 2 representation.
0 0 0 0 ....
1 0 0 0 0 ....
to save that 1 representation we
do 2's comp

* signed unsigned

signed ↑ default

unsigned ↑

unsigned int a = 2

unsigned int a = -2 ↳ gives very big number.

* operator:
  - → Arithmatic +, -, %, /, *
  - → logical ||, &&, !
  - → bitwise >>, <<
  - → Assignment +=, -=, *=, =, /=
  - → Relational >, <, >=, <=, ==, !=
  - → Ternary. condition ? Answer 1 : Answer 2
    - Answer 1 ↑ true
    - Answer 2 ↑ false