# Type casting

① Allows you to change the data type of a variable from one type to another

Eg

char ⟶ int

int ⟶ char.

② Crucial when you need to Perform operations involving variables of different data types. ensuring data is handled correctly.

# Implicit Type Conversion

1. Aka, Automatic type conversion
2. Compiler automatically converts one data type to another during an operation.
3. This happens when you perform operations involving variables of different data types & the compiler promotes one type to a larger type to maintain precision

```
int num1 = 10;
float num2 = 5.5;
float result = num1 + num2;
cout<<result<<endl;
```

int to float implicit conversion

```
// 2. char to int
// char ch = 'A';
// int a = ch + 1; // Implicit conversion from char to int
// cout<<a<<endl;
```

→ 66

```
// 3. int to char
// int a = 97;
// char ch = a; // Implicit conversion from int to char
// cout<<a<<endl;
```

→ 'a'

## Explicit Type conversion

1. Manual Type conversion
2. Allows you to explicitly specify the desired data type during an assignment (or) operation.

③ You can use the casting operator which is represented by Paranthesis containing the target data type.

```
int num1 = 10;
float num2 = 5.5;
float result = num1 + (int)num2;
cout<<result<<endl;
```

Note :-

int / int ⟶ int

int / float ⟶ float

float / int ⟶ float .