day-6 (~~fo~~ functions)

A function is a Block of code that perform a specific task instead of writing the same code again and again, we will create a function and call it when we need.

Why do we use functions ?

- Code Become clean
- Avoid repetition
- Easy to debug
- Reusable
- Makes large programs managable

Syntax:

```
return-type   function_name (Parameters) {
        // code
        return value ; // if return type is not valid

}
```

Types of functions

① function with no return and no parameters.

```
#include <iostream>
using name space std;
void greet() {
    Cout << "hello" <<endl;
}
int main() {
    greet() ;
}
```

- void means it does not return anything
- No input parameters.

② functions with Parameters but no return.

```
void Print_sum(int a, int b){
        Cout <<a+b << endl ;
}
```

```
printSum(5,3);
```

③ function with return value and parameters

```
int square(int num){
    return num*num;
}
```

function Declaration (Prototype)

Some time we declare a function before main():

```
int add(int, int);   // declaration.
int main() {
    cout << add(4,6);
}

int add(int a, int b) {
    return a+b;   # definition.
}
```

This tells the compiler that function exist

Call by value

In C++, by default, argument are passed by values That means copy is sent to the function.

```
void change(int x) {
    x=100;
}
int main(){
    int a= 10;
    change(a);
    cout<<a;   // still 10
}
```

original value does not change.

Problem statement→ simple calculator using functions.