

## Ch-8 Functions & Recursion

What is function?

It is a block of code which only run when its called.

Function Prototype

Tells the compiler that a function is going to come.

Syntax

type. functionname (arguments);

Formal parameters

parameters made in function

Actual Parameters

value passed to function.

Formal parameters take value from actual parameters.

void function doesn't return value.

## Call by value

method of passing arguments to a function copies the actual value of an argument.

## Call by reference

copies the address.

### 1 Inline functions

Syntax:-

```
inline int product(int a, int b) {  
    return a * b;  
}
```

### 2 Static variable

```
static int c = 0; // this runs 1 time  
c = c + 1; // Now this function  
is run, the value  
of c will be  
retained
```

## Recursion

Used in function

base condition

```
if (n==1) {  
    return 1; — base condition
```

```
}  
return n * fact(n-1);  
    \ return factorial
```

```
}
```

$fib(n-2) + fib(n-1)$

~~Function overloading.~~