### TYPES OF Recursion

1. Direct Recursion
2. Indirect Recursion
3. Tail Recursion
4. No Tail/ Head Recursion
5. Linear recursion
6. Tree Recursion

### Direct Recursion

When a function calls itself within the same function repeatedly, it is called the direct recursion.

### Indirect Recursion

When a function is mutually called by another function in a circular manner, the function is called an indirect recursion function.

### Tail Recursion

A recursive function is called the tail-recursive if the function makes recursive calling itself, and that recursive call is the last statement executes by the function. After that, there is no function or statement is left to call the recursive function.

### Non-Tail / Head Recursion

A function is called the non-tail or head recursive if a function makes a recursive call itself, the recursive call will be the first statement in the function. It means there should be no statement or operation is called before the recursive calls. Furthermore, the head recursive does not perform any operation at the time of recursive calling. Instead, all operations are done at the return time.

### Linear Recursion

A function is called the linear recursive if the function makes a single call to itself at each time the function runs and grows linearly in proportion to the size of the problem.

### Tree Recursion

A function is called the tree recursion, in which the function makes more than one call to itself within the recursive function.