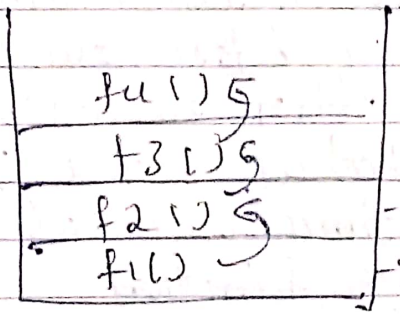
Day 16 Recursion : Function call itself

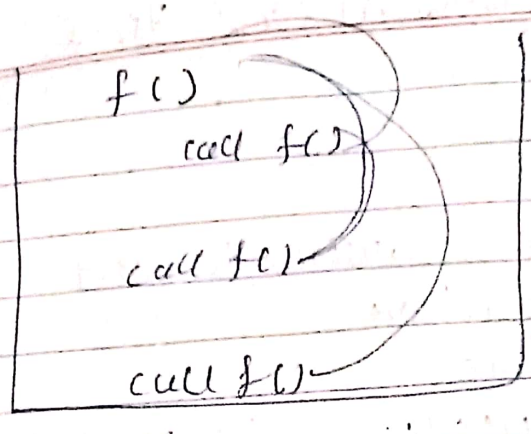
1) Functions
2) Stack
3) Why and where recursion is used
   a) Folder structure
   b) Family tree
4) Important techniques to write recursive code
5) Common pitfalls of recursion
6) Seeing recursion live demo
7) Recursion infinite loop / stack overflow demo
8) Code demo with different examples

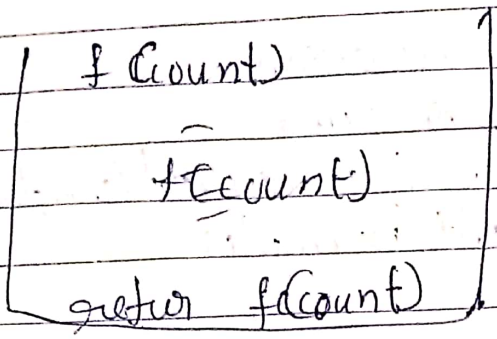
1) Functions

```
<return_type> functionName(argument(s)) {
    int sum(int num1, int num2)
    {
        // code
        return ();
    }
```

2) Stack







3) why and where recursion is used
   a) Folder Structure
   b) Family tree
4) Important technique to write recursion code

Recursion

1) Should write stop condition before call
2) where you call recursion function
3) writing of code before recursive function after recursive code what we write
4) How many times you call recursive function

1) Simple Recursive function

```
def increment_and_print(counter: int):
    if counter >= 3:          # Stop condition
        return

    counter = counter + 1

    print(f"{counter}")

    increment_and_print(counter)

increment_and_print(0)
```