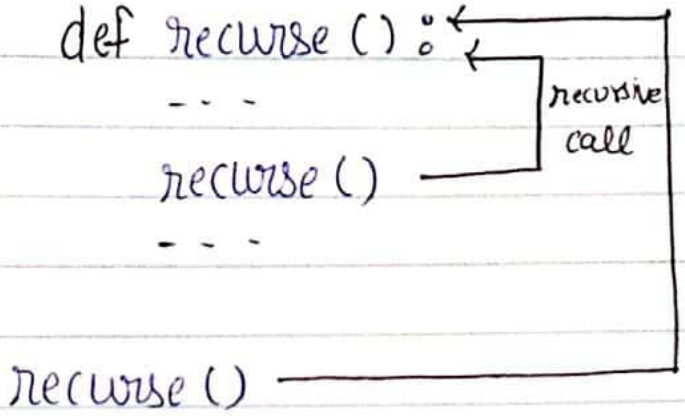
* Recursion in Python :-

→ A function that calls itself is a recursive function.

→ Recursion is the process of defining something in terms of itself.



(Recursive function in Python)

* Example of recursive function

Program to compute factorial of a number using recursion.

Factorial of a number is the product of all the integers from 1 to that number.
for example 6! (6X5X4X3X2X1 = 720)

Example

```
def fact(n):

    if n == 1:
        return 1
    else:
        return(n * fact(n-1))
# function call
num = 5

print (" The factorial of", num, "is", fact(num))
```

Output

The factorial of 5 is 120.

* Advantages of Recursion :-

→ Recursive functions clivicle the Problem into simple sub-problems.

→ Recursive functions make the code look clean and elgant.

→ Sequence generation is simpler in recursion such as fibonacci series as compared to that of loops.

* Disadvantages of Recursion:-

→ Recursive code is hard to develop and debug.

→ Difficult to understand.

→ Recursive calls are expensive, as they take up a lot of memory and time.