

## Recursion

↳ Repeating/calling the same method/function

### Recursive code

```
functionName (Parameters) {  
    if (baseCondition)  
        return;
```

Terminating  
condition

else {

Recursive  
call

functionName (changed Parameters)

n=5

$$5! = 5 \times 4 \times 3 \times 2 \times 1$$

$$= 120$$

Base case condition

n = 0 or 1

$$0! \text{ or } 1! = 1$$

factorialNum(int n)

Recursive  
code

① Base  
case

{ if (n == 0 || n == 1) {  
return 1; }  
}

② Recursive  
call

int result = n \* factorialNum(n-1);

Pseudocode

return result;

}

120  
factorialNum(5)

→ result = 5 \* factorialNum(4)

↓ 24  
6 = 24  
4 \* factorialNum(3)

↓ 2 = 6  
3 \* factorialNum(2)

↓ 2 \* factorialNum(1)

1

Terminating  
condition

Base  
case  
condition

## Recursive code

- ↳ 1) Simple to understand
- 2) Simple to code