

① Recursion!

- function that sometimes CALLS itself!

factorial

$$n! = 1 \times 2 \times 3 \times \dots \times n$$

$$n! = \boxed{(1 \times 2 \times 3 \times \dots \times (n-1))} \times n$$

$$n! = (n-1)! \times n$$

↑ Problem of the exact same nature

Section of code w/o rec call

is the base case(s)

// base case

if $(n \leq 1)$ return 1;

// recursive case

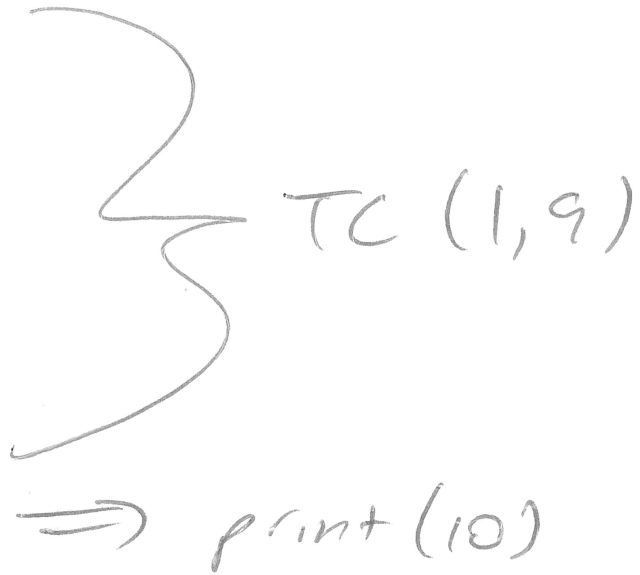
return fact(n-1) * n;

Power

$$b^e = \boxed{b^{e-1}} * b^1 = b^{e-1+1} = b^e$$

Tip Chart

1	0.15
2	0.30
...	
9	1.35
10	1.50

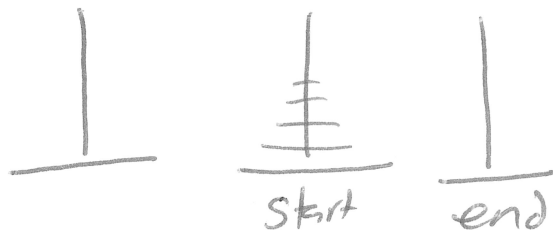


TC(low, high)

TC(low, high-1)

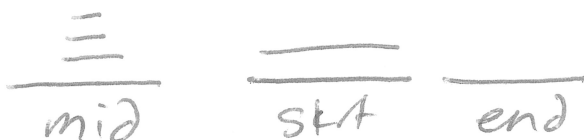
printf("%d\t %.2lf\n", high, ~~high~~ high * RATE);

Towers n disks



to solve
towers(n, start, end)

forced to do



1. towers(n-1, start, mid)

2. move bot disk from start to end

3. towers(n-1, mid, end)