2/23/22

Wednesday, March 2, 2022 6:26 PM

```
def power(x,n):
  if n == 0
    power = 1
  else
    power(x,n) == x * power(x,n-1)
  return power(x,n)
```

$x^n = x^{n-1} \cdot x$ (power)

Recursive Tracing:

↳ n=0 p=1

↳ n=1 p = x * P(x,0) → x

n=1 ↳ 1 step

↳ n=2 p = x * P(x,1) → x * P(x,0) → x^2

n=2 ↳ 2 steps

$x^n = x^{n-1} \cdot x$

O(n)