

## Potenza in $\Theta(\log n)$

POW( $a, n$ )

```
1  if  $n == 0$ 
2      return 1
3
4   $p = \text{POW}(a, \lfloor n/2 \rfloor)$ 
5
6  if  $n \bmod 2 == 0$ 
7      return  $p * p$ 
8  else return  $p * p * a$ 
```

Versione ricorsiva in coda:

POW-ITER( $a, n, r$ )

```
1  if  $n == 0$ 
2      return  $r$ 
3
4  if  $n \bmod 2 == 0$ 
5       $r' = r$ 
6  else  $r' = r * a$ 
7
8  return POW-ITER( $a * a, \lfloor n/2 \rfloor, r'$ )
```

POW( $a, n$ )

```
1  return POW-ITER( $a, n, 1$ )
```