

ES1

$n = 4$

ALBERO DI RICORSIONE
DI FIBONACCI

$F(4)$ 3

SOL. $F(4) = 3$

$F(3)$ 2

$F(2)$ 1

$F(2)$ 1

$F(1)$ 1

$F(1)$ 1

$F(0)$ 0

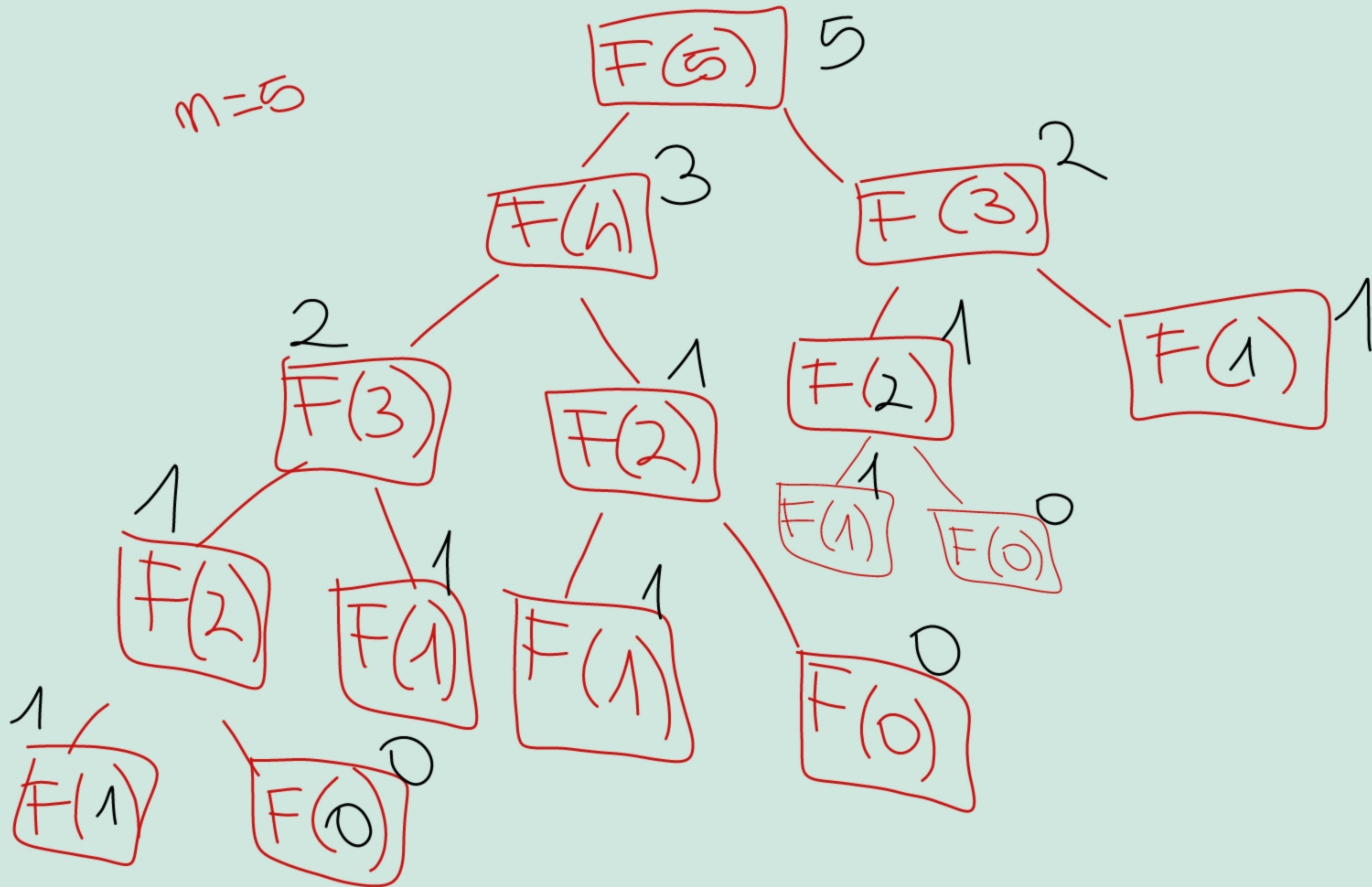
$F(1)$ 1

$F(0)$ 0

$$F(n) = F(n-1) + F(n-2)$$

$n \rightarrow$	0	1	2	3	4
$F(n) \rightarrow$	0	1	1	2	3

$n=5$



ES 2

$$\text{SE } n=5 \Rightarrow 5^2 + 4^2 + 3^2 + 2^2 + \underbrace{1^2}_{\neq \emptyset}$$

```
int SOMMAQUAD N(int n){
```

```
    if(n==1){
```

```
        return 1;
```

```
    }
```

```
    else{
```

```
        return (n*n) + SOMMAQUADN(n-1);
```

```
    }
```

```
}
```

ES 3

FUNZ.

IL

RICORSIVA

$$\boxed{\log_2(n)}$$

DATO n

CHE $\sqrt{\text{RESTITUISCE}}$

SE $n=8$

→

3

SE $n=16$

→

4

$$\left(\log_2 8 = 3 \right)$$


```
int logRic (int n) {
```

```
    if (n < 2) {
```

```
        return 0;
```

```
    }
```

```
    else {
```

```
        return 1 + logRic(n/2);
```

```
    }
```

