10, 8, 7, 6, 4, 9, 2, 3, 5, 1 #1

7, 3, 8, 1, 9, 6, 4, 10, 25 #2

10, 1, 8, 4, 2, 5, 6, 7, 3, 9 #3

5, 3, 7

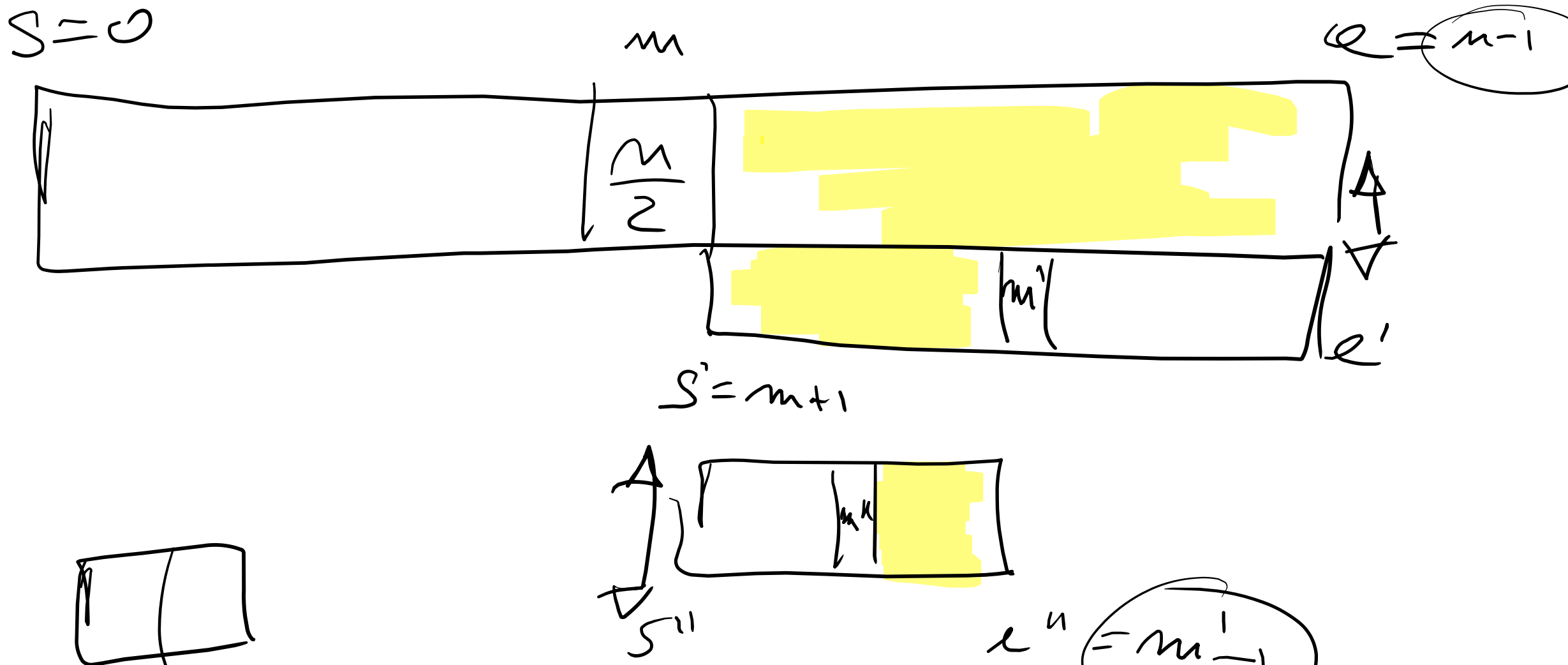
9, 10, 6 8, 2, 9 3, 7, 8

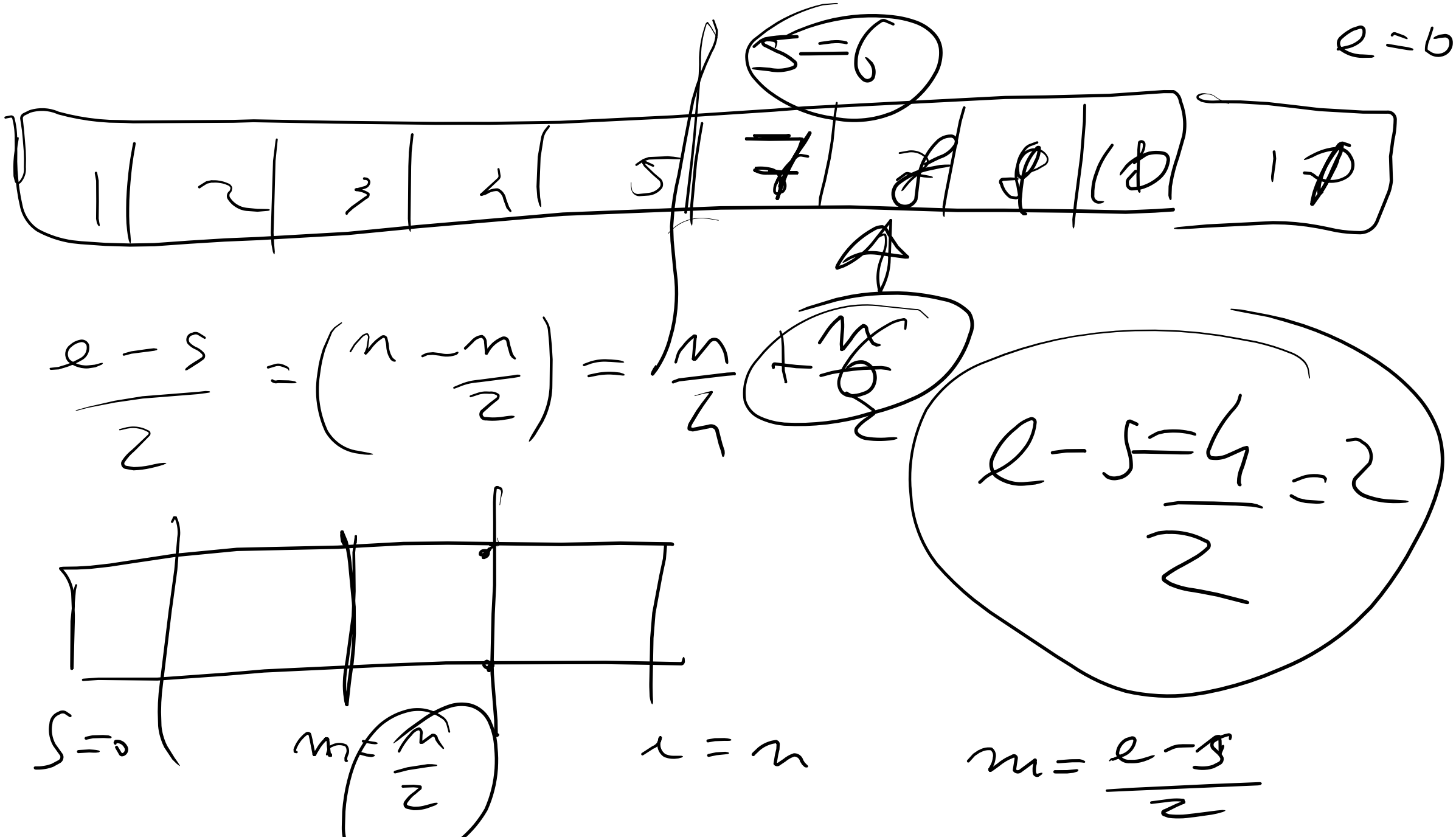
RICERCA LINEARE

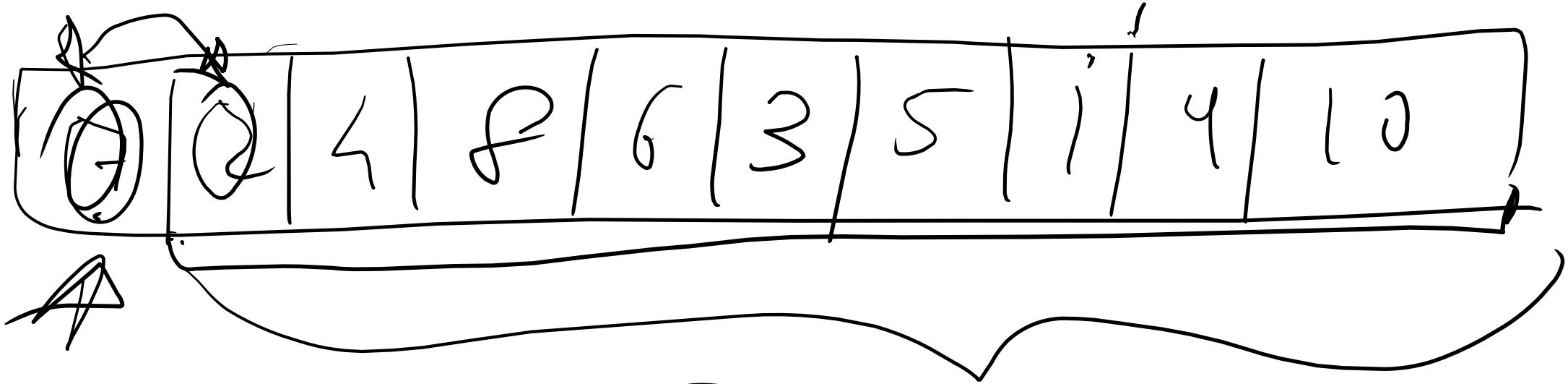
in media $\frac{n}{2} \Rightarrow O(n)$

RICERCA BINARIA o DICOTOMICA

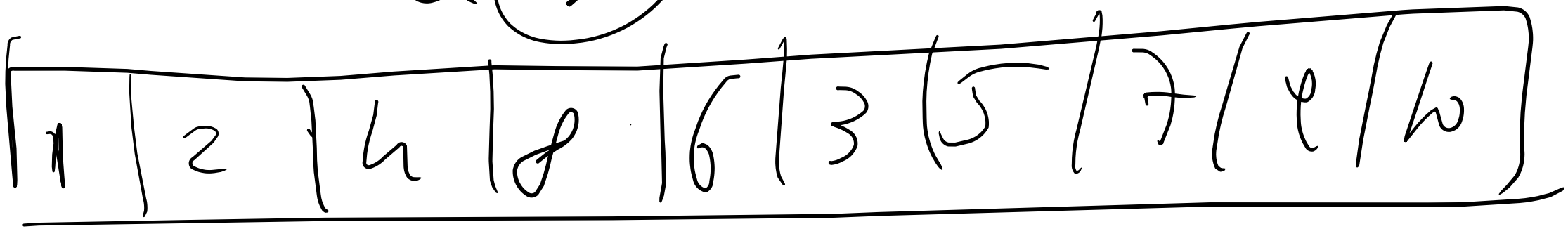
$10 \Rightarrow 3 \sim \lg_2 10$

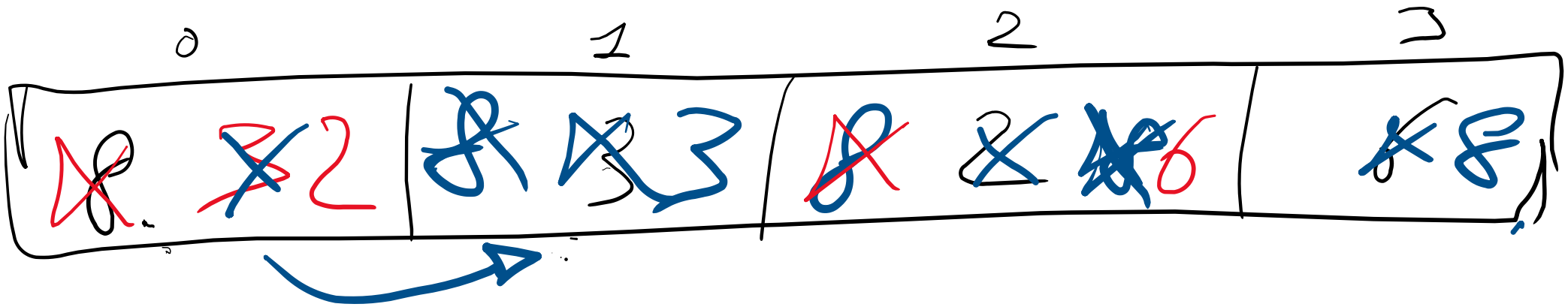

s=0
m
e=m-1
m/2
m'
e'
s'=m+1
m''
s''
e''=m'-1
s=e=m
s'''=m''+1
e'''=e''


e=6
s=6
1 2 3 4 5 7 8 9 10 11
$\frac{e-s}{2} = \left(n - \frac{n}{2}\right) = \frac{n}{4} + \frac{n}{2}$
$e-s=4=2$
$\frac{2}{2}$
s=0
$m = \frac{n}{2}$
i = n
$m = \frac{e-s}{2}$



Indice minore





i = 1 , temp = 3

j = 1 , j = 0

i = 2 , temp = 2

j = 2

j = 1

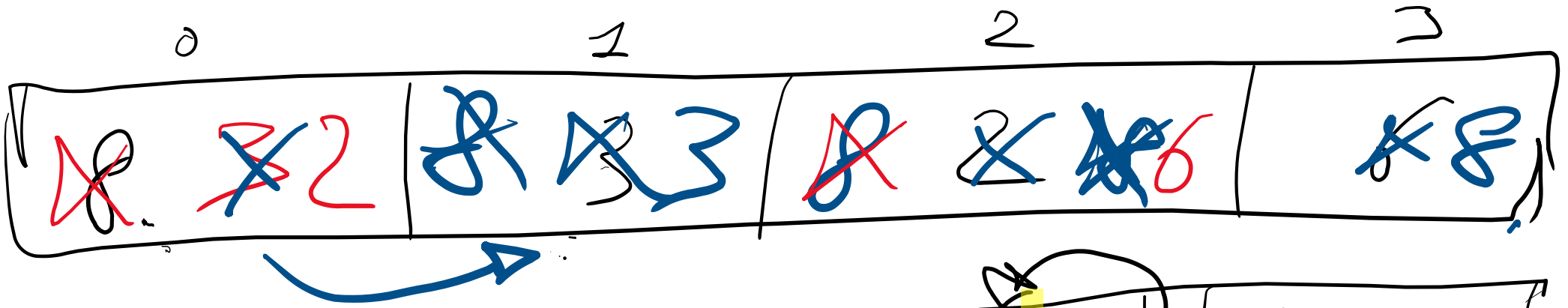
j = 0

i = 3 , temp = 6

i = 3 , j = 2

```
void insertionSort(int array[], int n) {
    int temp, j;

    for(int i=1; i < n; i++) {
        temp = array[i];
        for(j=i; j > 0; j--) {
            if(temp < array[j-1])
                array[j] = array[j-1];
            else
                break;
        }
        array[j] = temp;
    }
}
```



i = 1 , temp = 3

j = 1 , j = 0

i = 2 , temp = 2

j = 2

j = 1

j = 0

i = 3 , temp = 6

j = 3 , j = 2

O(n²)

```
void insertionSort(int array[], int n) {
    int temp, j;

    for(int i=1; i < n; i++) {
        temp = array[i];
        for(j=i; j > 0; j--) {
            if(temp < array[j-1])
                array[j] = array[j-1];
            else
                break;
        }
        array[j] = temp;
    }
}
```

Linear branch