

## Ejercicio 1

1.

```
1 int ultimo1(vector<int> v) //n = |v|
2 {
3     return v[v.size() - 1]; //1
4 }
```

■  $\text{return } v[v.size() - 1]; \equiv 1$

$$t(n) = 1 \equiv O(1)$$

2.

```
1 int ultimo2(vector<int> v) //n = |v|
2 {
3     int i = v.size(); //1
4     return v[i - 1]; //1
5 }
```

■  $\text{int } i = v.size(); \equiv 1$

■  $\text{return } v[i - 1]; \equiv 1$

$$t(n) = 2 \equiv O(1)$$

3.

```
1 int ultimo3(vector<int> v) //n = |v|
2 {
3     int i = 0; //1
4     while (i < v.size()) //1 + n
5     {
6         i++; //n
7     }
8     return v[i - 1]; //1
9 }
```

■  $\text{int } i = 0; \equiv 1$

■  $1 +$

•  $i < v.size() \equiv n$

•  $i++; \equiv n$

■  $\text{return } v[i-1]; \equiv$

$$t(n) = 3 + 2n \equiv O(n)$$