

# Se enojo?

## valorAbsoluto

```
1 int valorAbsoluto(int &n){
2     if(n<0){
3         n = n * (-1);
4     }
5     return n;
6 }
```

$c_1$	1
$c_2$	1

- $T_{valorAbsoluto}(n) = c_1 + c_2$
- $T_{valorAbsoluto}(n) \in O(1)$

## tono

```
1 float tono(senial s){
2     float sumatoria = 0;
3     for(int i=0; i < s.size(); i++){
4         sumatoria = sumatoria + valorAbsoluto(s[i]);
5     }
6     return sumatoria / s.size();
7 }
```

$c'_1$	1
$c'_2$	$n+1$
$c'_3$	$n$
$c'_4$	1

- $n = |s|$
- $T_{tono}(n) = c'_1 + c'_2 \cdot (n+1) + c'_3 \cdot n + c'_4$
- $T_{tono}(n) \in O(n)$

## duraMasDe

```
1 bool duraMasDe(senial s, int freq, float seg){
2     return (s.size() >= freq*seg);
3 }
```

$c''_1$	1
	1
	1

- $n = |s|$
- $T_{duraMasDe}(n) = c''_1$
- $T_{duraMasDe}(n) \in O(1)$

## seEnojo

```

1 bool seEnojo(senial s, int umbral, int prof, int freq) {
2     bool resp = false;
3     int min = 2;
4     if(!duraMasDe(s,freq,min)){
5         return resp;
6     } else{
7         int i = 0;
8         while( i < (s.size() - (min*freq-1)) && !resp){
9             int j=i+(min*freq);
10            while(j<=s.size() && !resp){
11                senial subSenial (s.begin()+i,s.begin()+j);
12                resp = (tono(subSenial) > umbral);
13                j++;
14            }
15            i++;
16        }
17        return resp;
18    }
19 }

```

$c_1'''$	1
$c_2'''$	1
$c_3'''$	1
$c_4'''$	1
$c_5'''$	$n - r + 1$
$c_6'''$	$n - r$
$c_7''' \cdot (n - r)$	$n - r + 1$
$c_8''' \cdot (n - r) \cdot (j - i)$	$n - r$
$c_9''' \cdot (n - r) \cdot (j - i)$	$n - r$
$c_{10}''' \cdot (n - r)$	$n - r$
$c_{11}'''$	$n - r$

- $n = |s|$
- $r = \text{min} * \text{freq} - 1 = 19$
- $(n - r) \approx n$
- $(j - i) \approx n$
- $T_{seEnojo}(n) = c_1''' + c_2''' + c_3''' + c_4''' + c_5''' * (n - r + 1) + c_6''' * (n - r) + c_7''' * (n - r)^2 + c_7''' + c_8''' * (n - r)^2 * (j - i) + c_9''' * (n - r)^2 * (j - i) + c_{10}''' * (n - r)^2 + c_{11}''' * (n - r)$
- $T_{seEnojo}(n) \in O(n^3)$