11. $T(n) = \begin{cases} f(n) & 0 \le n < n_0 \\ a \cdot T(n-c) + g(n) & n \ge n_0 \end{cases}$

$T(n) \in \begin{cases} \Theta(n^k) & \text{si } a < 1 \\ \Theta(n^{k+1}) & a = 1 \\ \Theta(a^{n/c}) & a > 1 \end{cases}$ $\quad g \in \Theta(n^k)$.

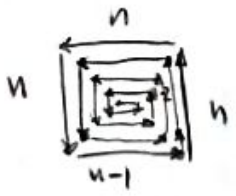
```
Camina (n) {
  if (n>1) {
      + n nord,
      + n est;
      + n sud;
      + n oest;
      + 1 nord;
      Caminar (n-2);
  }
}
```

teoremes mestres

$C(n) = C(n-2) + \Theta(4n)$

$\Theta 4(n) \in \Theta(n^1)$

$a = 1 \Rightarrow O(n^{1+1}) = O(n^2)$



$C(n) = 4n + (4(n-2) + (4(n-4) + (\cdots)))$

$= 4n + 4(n-2) + 4(n-4) \cdots + 4$

$\simeq \underbrace{4(n + n - 2 + n - 4 + n - 6)}_{n/2 \text{ termes}}$

$\simeq \sum_{k=0}^{n/2} 4n - \sum_{k=1}^{n/2} 4 \cdot 2k \simeq 4n \frac{n}{2} - 8 \sum_{k=0}^{n/2} k = O(n^2)$