```
fact 0 = 1
fact n = n * fact (n-1)
```

$$fact(n) = \prod_{i=1}^{n} i =$$

$1 \cdot 2 \cdot 3 \cdot \ldots \cdot (n-1) \cdot n$

$fact(n-1)$

$$prod\ d\ h = \prod_{i=d}^{h} i =$$

$d \cdot (d+1) \cdot \ldots \cdot (h-1) \cdot h$

$prod\ d\ (h-1)$

$$prod\ d\ d = d = \prod_{i=d}^{d} i$$

$$fact\ n = prod\ 1\ n = \prod_{i=1}^{n} i = n!$$

$$prod\ d\ h = \prod_{i=d}^{h} i =$$

$d \cdot (d+1) \cdot \ldots \cdot (h-1) \cdot h$

$prod\ d+1\ h$

$prod\ d\ d = d$

SumaDivisores 6 = 1 + 2 + 3 + 6 = 12

SumaDivisores 13 = 1 + 13 = 14

sumaDivisores 6 =

$1 + 2 + 3 + 6$

$$sumaDivisoresHasta\ n\ k = \sum_{\substack{d \mid n \\ d \leq k}} d$$

$d = 1$ ✓
$= 2$
$= 3$ ✓
$= 4$
$\vdots$
$= k-1$
$= k$

$=$

$sumaDivisoresHasta\ n\ (k-1)$

$+ \begin{cases} 0 & \text{si } k \nmid n \\ k & \text{si } k \mid n \end{cases}$

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sumaDivisoresHasta n 1 = 1

sumaDivisoresHasta 6 4 =

SDH 6 3 = 3 + SDH 6 2

2 + SDH 6 1

1

SDH 6 6 = 6 + SDH 6 5 = 6

SDH 6 4 ✗

SDH 6 3 ✗

3 + SDH 6 2 ✓

2 + SDH 6 1 ✓

1 ✓

Otra forma de sumaDivisores

$$sumaDivisoresDesde\ n\ k = \sum_{\substack{d \mid n \\ k \leq d}} d$$

$d = k$ ✗
$= k+1$ ✓
$\vdots$ ✓
$= d$ ✓

$sumaDivisoresDesde\ n\ k+1$

$+ \begin{cases} 0 & \text{si } k \nmid n \\ k & \text{si } k \mid n \end{cases}$

sumaDivisoresDesde n n = n

$n \geq 2$

menorDivisorDesde n k =

$\begin{cases} k & \text{si } k \mid n \\ menorDivisorDesde\ n\ (k+1) & \text{si } k \nmid n \end{cases}$

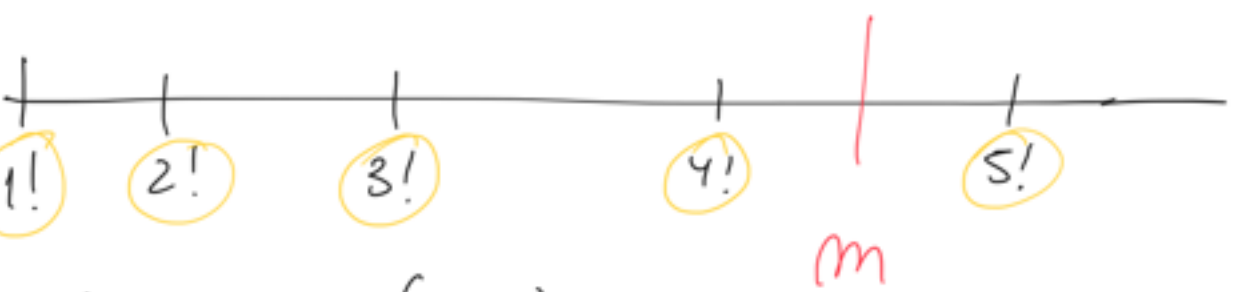
menorDivisorDesde n n = n

$p_1\ p_2\ p_3\ p_4\ \ldots\ p_{n-1}\ p_n$

$\quad =\quad =\quad =$

$2\quad 3\quad 5\quad 7$

p_n = el mínimo natural $> p_{n-1}$ que sea primo



menorFactDesdeDesde (i, n) =

$$\min \{ k! \mid k! \geq n,\ k \geq i \}$$

- Si $i! \geq n$, entonces $menorFactDesde(i, n) = i!$
- Si $i! < n$, $menorFactDesde(i, n) =$

$$= \min \{ k! \mid k! \geq n,\ k \geq i+1 \} =$$

$= menorFactDesde(i+1, n)$