

Problema de Escritorio

- Sucesión Fibonacci

Iteración	Llamada a Fibonacci (i)	Resultado	Salida
i=0	Fibonacci (0)	0	0
i=1	Fibonacci (1)	1	1
i=2	Fibonacci (2) \rightarrow Fibonacci (1) + Fibonacci (0) • Fibonacci (1) = 1 • Fibonacci (0) = 0 $1 + 0$	1	1
i=3	Fibonacci (3) \rightarrow Fibonacci (2) + Fibonacci (1) • Fibonacci (2) = 1 • Fibonacci (1) = 1 $1 + 1$	2	2
i=4	Fibonacci (4) \rightarrow Fibonacci (3) + Fibonacci (2) • Fibonacci (3) = 2 • Fibonacci (2) = 1 $2 + 1$	3	3

i=5	Fibonacci (5) \rightarrow Fibonacci (4) + Fibonacci (3) • Fibonacci (4) = 3 • Fibonacci (3) = 2 $3 + 2$	5	5
i=6	Fibonacci (6) \rightarrow Fibonacci (5) + Fibonacci (4) • Fibonacci (5) = 5 • Fibonacci (4) = 3 $5 + 3$	8	8
i=7	Fibonacci (7) \rightarrow Fibonacci (6) + Fibonacci (5) • Fibonacci (6) = 8 • Fibonacci (5) = 5 $8 + 5$	13	13
i=8	Fibonacci (8) \rightarrow Fibonacci (7) + Fibonacci (6) • Fibonacci (7) = 13 • Fibonacci (6) = 8 $13 + 8$	21	21
i=9	Fibonacci (9) \rightarrow Fibonacci (8) + Fibonacci (7) • Fibonacci (8) = 21 • Fibonacci (7) = 13 $21 + 13$	34	34

"La intención última de tus acciones definirá tu destino". Fernando Rielo

DECIDE
hazlo

$i = 10$	<p>Fibonacci(10) \rightarrow Fibonacci(8) + Fibonacci(9)</p> <ul style="list-style-type: none"> Fibonacci(9) = 34 Fibonacci(8) = 21 <p>34 + 21</p>	55	55
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Fórmula de Binet para Fibonacci:

$$F(n) = \frac{1}{\sqrt{5}} (\varphi^n - \psi^n)$$

Donde

$$\varphi = \frac{1 + \sqrt{5}}{2} = 1,61803$$

$$\psi = \frac{1 - \sqrt{5}}{2} = -0,61803$$

n	F(n) =	Valor
0	$\frac{1}{\sqrt{5}} (1 - 1) = 0$	0
1	$\frac{1}{\sqrt{5}} (\varphi - \psi) = 1$	1
2	$\frac{1}{\sqrt{5}} (\varphi^2 - \psi^2) = 1$	1
3	$\frac{1}{\sqrt{5}} (\varphi^3 - \psi^3) = 2$	2
4	$\frac{1}{\sqrt{5}} (\varphi^4 - \psi^4) = 3$	3
5	$\frac{1}{\sqrt{5}} (\varphi^5 - \psi^5) = 5$	5
6	$\frac{1}{\sqrt{5}} (\varphi^6 - \psi^6) = 8$	8
7	$\frac{1}{\sqrt{5}} (\varphi^7 - \psi^7) = 13$	13

DECIDE
hazlo

"Apuesta por grandes ideales. Hay que ser valiente para ir

n	F(n) =	Valor
8	$\frac{1}{\sqrt{5}} (\varphi^8 - \psi^8) = 21$	21
9	$\frac{1}{\sqrt{5}} (\varphi^9 - \psi^9) = 34$	34
10	$\frac{1}{\sqrt{5}} (\varphi^{10} - \psi^{10}) = 55$	55