

This note, that [was found here](#), as a part of [a collection](#) is written (completely with human hands) by [Rupadarshi Ray](#), was created on May 23, 2025 5:44:15 PM, was last modified on September 7, 2026 1:42:14 PM, and was exported on September 7, 2026 2:50:32 PM.

$$\begin{bmatrix} 1 & 1 \\ 1 & 0 \end{bmatrix}$$

powers

$$\begin{bmatrix} 1 & 1 \\ 1 & 0 \end{bmatrix}^2 = \begin{bmatrix} 2 & 1 \\ 1 & 1 \end{bmatrix}$$

which is $\begin{bmatrix} 2 & 1 \\ 1 & 1 \end{bmatrix}$

Fibonacci

$$\begin{bmatrix} 1 & 1 \\ 1 & 0 \end{bmatrix}^n = \begin{bmatrix} F(n+1) & F(n) \\ F(n) & F(n-1) \end{bmatrix}$$

for all $n \geq 0$ where $F(n)$ is the Fibonacci sequence

Definition. Fibonacci sequence

The Fibonacci sequence is defined by the recurrence relation
$$\begin{aligned} F(0) &= 0 \\ F(1) &= 1 \\ F(n+2) &= F(n) + F(n+1) \end{aligned}$$
which looks like
$$0, 1, 1, 2, 3, 5, 8, 13, 21, \dots$$

energy

[1]

Current note has 0 direct children and 0 total descendants.

- [squishy](#)
 - [Matrices](#)
 - $\begin{bmatrix} 1 & 1 \\ 1 & 0 \end{bmatrix}$

And it has 4 siblings.

- [squishy](#)
 - [Matrices](#)
 - $\begin{bmatrix} 2 & \\ & \frac{1}{2} \end{bmatrix}$
 - $\begin{bmatrix} 1 & 1 \\ 1 & 0 \end{bmatrix}$
 - $\begin{bmatrix} 1 & 1 \\ 0 & 1 \end{bmatrix}$
 - $\begin{bmatrix} 2 & 1 \\ 1 & 1 \end{bmatrix}$