The Fibonacci sequence $F_{n}$ is defined by the property that $F_{n}=F_{n-1}+F_{n-2}$ for every $n \geq 2$.
We usually require that $F_{0}=F_{1}=1$.
The sequence begins $1,1,2,3,5,8,13,21, \ldots$
The numbers in this sequence are called Fibonacci numbers and the equation defining the sequence is called the Fibonacci equation. The sequence is named after Leonardo Pisano Fibonacci.

The ratio of consecutive Fibonacci numbers tends to the golden ratio, $\phi$ :

$$
\lim _{n \rightarrow \infty} \frac{F_{n+1}}{F_{n}}=\phi=\frac{1+\sqrt{5}}{2}
$$

