Fibonacci Series C

Fibonacci sequence

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In mathematics, the Fibonacci sequence is a sequence in which each element is the sum of the two elements that precede it. Numbers that are part of the Fibonacci sequence are known as Fibonacci numbers, commonly denoted Fn . Many writers begin the sequence with 0 and 1, although some authors start it from 1 and 1 and some (as did Fibonacci) from 1 and 2. Starting from 0 and 1, the sequence begins

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, ... (sequence A000045 in the OEIS)

The Fibonacci numbers were first described in Indian mathematics as early as 200 BC in work by Pingala on enumerating possible patterns of Sanskrit poetry formed from syllables of two lengths. They are named after the Italian mathematician Leonardo of Pisa, also known as Fibonacci, who introduced the sequence to Western...

Fibonacci

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Leonardo Bonacci (c. 1170 – c. 1240–50), commonly known as Fibonacci, was an Italian mathematician from the Republic of Pisa, considered to be "the most talented Western mathematician of the Middle Ages".

The name he is commonly called, Fibonacci, is first found in a modern source in a 1838 text by the Franco-Italian mathematician Guglielmo Libri and is short for filius Bonacci ('son of Bonacci'). However, even as early as 1506, Perizolo, a notary of the Holy Roman Empire, mentions him as "Lionardo Fibonacci".

Fibonacci popularized the Indo–Arabic numeral system in the Western world primarily through his composition in 1202 of Liber Abaci (Book of Calculation) and also introduced Europe to the sequence of Fibonacci numbers, which he used as an example in Liber Abaci.

Fibonacci coding

In mathematics and computing, Fibonacci coding is a universal code which encodes positive integers into binary code words. It is one example of representations

In mathematics and computing, Fibonacci coding is a universal code which encodes positive integers into binary code words. It is one example of representations of integers based on Fibonacci numbers. Each code word ends with "11" and contains no other instances of "11" before the end.

The Fibonacci code is closely related to the Zeckendorf representation, a positional numeral system that uses Zeckendorf's theorem and has the property that no number has a representation with consecutive 1s. The Fibonacci code word for a particular integer is exactly the integer's Zeckendorf representation with the order of its digits reversed and an additional "1" appended to the end.

Fibonacci heap

In computer science, a Fibonacci heap is a data structure for priority queue operations, consisting of a collection of heap-ordered trees. It has a better

In computer science, a Fibonacci heap is a data structure for priority queue operations, consisting of a collection of heap-ordered trees. It has a better amortized running time than many other priority queue data structures including the binary heap and binomial heap. Michael L. Fredman and Robert E. Tarjan developed Fibonacci heaps in 1984 and published them in a scientific journal in 1987. Fibonacci heaps are named after the Fibonacci numbers, which are used in their running time analysis.

The amortized times of all operations on Fibonacci heaps is constant, except delete-min. Deleting an element (most often used in the special case of deleting the minimum element) works in

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Reciprocal Fibonacci constant

The reciprocal Fibonacci constant ? is the sum of the reciprocals of the Fibonacci numbers: ? = ? k = 1 ? 1 F k = 1 1 + 1 1 + 1 2 + 1 3 + 1 5 + 1 8 +

The reciprocal Fibonacci constant ? is the sum of the reciprocals of the Fibonacci numbers:

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Fibonacci anyons

condensed matter physics, a Fibonacci anyon is a type of anyon which lives in two-dimensional topologically ordered systems. The Fibonacci anyon ? {\displaystyle

In condensed matter physics, a Fibonacci anyon is a type of anyon which lives in two-dimensional topologically ordered systems. The Fibonacci anyon

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is distinguished uniquely by the fact that it satisfies the fusion rule

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{\displaystyle \tau \otimes \tau ={\bf {1}}\oplus \tau }

. Alternatively, the Fibonacci anyon can be defined by fact that it is algebraically described by the unique non-trivial simple object in the Fibonacci category.

Experimentally, it has been proposed that Fibonacci anyons could be hosted in the fractional quantum Hall system. In particular, it is possible...

Fibonacci cube

In the mathematical field of graph theory, the Fibonacci cubes or Fibonacci networks are a family of undirected graphs with rich recursive properties derived

In the mathematical field of graph theory, the Fibonacci cubes or Fibonacci networks are a family of undirected graphs with rich recursive properties derived from its origin in number theory. Mathematically they are similar to the hypercube graphs, but with a Fibonacci number of vertices. Fibonacci cubes were first explicitly defined in Hsu (1993) in the context of interconnection topologies for connecting parallel or distributed systems. They have also been applied in chemical graph theory.

The Fibonacci cube may be defined in terms of Fibonacci codes and Hamming distance, independent sets of vertices in path graphs, or via distributive lattices.

Fibonorial

constant (also called the fibonacci factorial constant) C {\displaystyle C} is defined by C = ? k = 1 ? (1 ? a k) {\displaystyle C=\prod _{k=1}^{\infty }(1-a^{k})}

In mathematics, the Fibonorial n!F, also called the Fibonacci factorial, where n is a nonnegative integer, is defined as the product of the first n positive Fibonacci numbers, i.e.

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{\displaystyle {n!}_{F}:=\prod _{i=1}^{n}F_{i},\quad n\geq 0,}

where Fi is the ith Fibonacci number, and 0!F gives the empty product (defined as the multiplicative identity, i.e. 1).

The Fibonorial n!F is defined analogously...

Golden spiral

golden spiral. Another approximation is a Fibonacci spiral, which is constructed slightly differently. A Fibonacci spiral starts with a rectangle partitioned

In geometry, a golden spiral is a logarithmic spiral whose growth factor is ?, the golden ratio. That is, a golden spiral gets wider (or further from its origin) by a factor of ? for every quarter turn it makes.

Wall–Sun–Sun prime

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