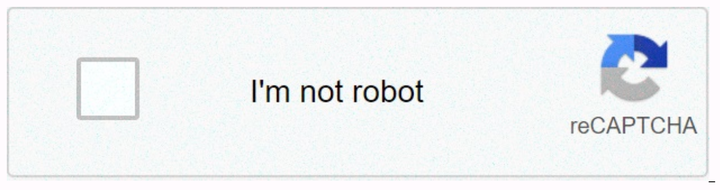

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Sequencia fibonacci pato donald

Ampliação: Pato Donald e a sequência de Fibonacci Ampliação: Pato Donald e a sequência de Fibonacci Fibonacci sequence is one of the most famous formulas in mathematics. Each number in the sequence is the sum of the two numbers preceding it. So, the sequence goes: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, etc. The mathematical equation describing it is Xn+2 = Xn+1 + Pillar of XnA high school and undergraduate classes, it was called a natural secret code and a universal rule of nature. He is said to manage everything from the great pyramids of Giza dimensions, to the iconic sink that most likely adorned the cover of his school's math textbook. And the odds are, almost everything you know about it is wrong. Scattered historyThis, then, what is the real story behind this famous sequence? Many sources say it was first discovered or invented by Leonardo Fibonacci. The Italian mathematician, who was born around 1170, was originally known as Leonardo pisa, said Keith Devlin, a mathematician at Stanford University. Only in the 19th century historians come up with the nickname Fibonacci (roughly meaning the son of the Bonacci clan), separating the mathematician from another famous Leonardo Pisa, Devlin said. [The large numbers that define the Universe] But Leonardo Pisa didn't actually discover the sequence, said Devlin, who is also the author of Finding Fibonachi: A Quest to Discover the Lost Mathematical Genius That Changed the World(Princeton University Press, 2017). The ancient Sanskrit texts, which used the Hindu-Arabic numeral system, mention first of all, and those that were ancient Leonardo pisas for centuries. It's been around forever, Devlin told Live Science.However, in 1202 Leonardo Pisa published a massive volume of Liber Abaci, a math cookbook on how to do calculations, Devlin said. Written to traders, Liber Abaci laid out Hindu Arabic arithmetic useful to track profits, losses, remaining loan balances, etc., Devlin said. In one place in the book, Pisa Leonardo presents a sequence with a problem with rabbits. The problem goes like this: Start with male and female rabbits. A month later, they matured and produced litter with another rabbit male and female. A month later, those rabbits multiply and go out - you guessed - another male and female who can also mate after a month. (Ignore the incredibly incredible biology here.) A year later, how many rabbits do you have? The answer, it turns out, is 144 – and the formula used to get this answer is what is now known as the Fibonati sequence. [11 Most Beautiful Mathematical Equations] Liber Abaci first presented the sequence to the Western world. However, after a few scant paragraphs about breeding rabbits, Leonardo's pisa never mentioned the sequence. In fact, it was largely forgotten until the 19th century, when more about the mathematical properties of the sequence. In 1877, French mathematician Édouard Lucas officially named the rabbit problem in the Fibonacci sequence, Devlin said. The fibonachi sequence and gold ratio are eloquent equations, but not as magical as they may seem. (Image credit: Shutterstock) Imaginary valueBut what exactly is the meaning of the Fibonati sequence? Except for that neat training tool, it shows several places in nature. But it's not some secret code that governs the architecture of the universe, Devlin said. It is true that the Fibonati sequence is closely related to what is now known as the golden ratio (which is not even a real ratio, because it is an irrational figure). Simply put, the ratio of consecutive numbers, as the sequence goes to infinity, is approaching the gold ratio, which is 1.6180339887498948948484848482... From there, mathematicians can calculate what is called a golden spiral, or a logarithmic spiral, the growth factor of which is equal to the golden ratio. [9 Massive Figures of Existence] The gold ratio seems to capture some plant growth species, Devlin said. For example, the spiral arrangement of the leaves or petals of some plants corresponds to the golden ratio. Pinecones exhibit a golden spiral, like sunflower seeds, according to Phyllotaxis: A systematic study of plant morphogenesis (Cambridge University Press, 1994). But there are as many plants that do not follow this rule. It's not God's only rule of growing things, let's put it that way, Devlin said. And perhaps the most famous example of all, the sink known as nautilus, doesn't actually grow new cells under the Fibonachi sequence, he said. When people begin to make contact with the human body, art and architecture, references to the Fibonachi sequence go from weak to completely fanciful. This would be a great book documenting all the misinformation about the golden ratio, most of which is simply the repetition of the same mistakes of different authors, George Markowsky, a mathematician who was then at the University of Maine, wrote in a 1992 paper in the College Mathematics Journal.Much of this disinformation can be attributed to the 1855 book by German psychologist Adolf Zeising. Zeising claimed that the proportions of the human body were based on the ratio of gold. The golden ratio sprouted golden rectangles, golden triangles and all sorts of theories about where these iconic dimensions cropped. Since then, people have said the golden ratio can be found in the pyramid dimensions of Giza, Parthenon, Leonardo da Vinci Vitruvian Man and Renaissance buildings bevy. Overarching claims that the ratio is uniquely pleasing to the human eye has been pointed out uncritically, Devlin said. All of these claims, when they are tested, are measurably false, Devlin said. We're a good model We can see the model regardless of whether it's there or not, Devlin said. Everything is just wishful thinking. It is infinite and starts at 0 and 1;These numbers are always the sum of the previous two numbers; After 0 and 1, come 1,2,3,5,8,13,21,34, ... This is a recursive sequence because it is a sequence in which a relationship between more consistent terms can be expressed in a mathematical formula. The Fibonachi sequence was the first of these sequences known in Europe.The fibonachi periodicity of the Fibonachi series quickly becomes large, as two successive previous numbers are always added as follows. For example, the 5th number is 5 and the 125th number is 59,425,114,757,512,643,212,875,125. It is also interesting to note that the number of units occurs with a periodicity of 60, that is, every 60 numbers that the digit repeats. For example, the second number is 1 and sixty seconds is 4,052,739,537,881 (also completed 1). This periodicity was discovered in 1774 by a French mathematician, Joseph Louis Lagrange. Last two digits (01, 01, 02, 03, 05, 08, 13, 21, ...) shall be repeated with a periodicity of 300, the last three digits shall be repeated with a periodicity of 15000, the last four with 15 000 times, the last 5 times every 150 000 and the last 6 with a periodicity of 1 5000 000. Israeli mathematician Dov Jarden has shown that it can be strictly proven that any number with the last digits above three, the periodicity is 15x10 (n-1), where n is the number of digits that is repeated. 89 and 1/89Fibonachi sequence is a very great number - eleventh number-89. Decimal mapping 1/89 value is set to 0.01123595... If we organize fibonati numbers as decimals, we receive:0.010,0010,000030,0000050,00000080,00000130,00000021...The number of units of the first Fibonate number is in the second decimal place, the second is in the third decimal place, and t. t. So we get that number of units n'th number fibonachi is (n+1)-th decimal. Now, if we add all the numbers we get 0.01123595, which is equal to 1/89! This curiosity was discovered by Cody Birsner, a student at the University of Oklahoma, in 1994.Sum of the fibonati sequence numbers The sum of all numbers in this sequence is equal to (n+2)-1. For example, for the first 10 numbers, 1+1+2+3+5+8+13+21+34+55=143, the sum is equal to the twelfth number (144) minus 1. In general we have: Sum of fibonati numbers in odd orderSoqued the same idea of the previous item, we can add only odd sequence numbers: We know that: F2 = F1, logo, F1 = F2F4 = F3 + F2, logo, F3 = F4 -F2F6 = F5 F5 = F6 -F4... F2n = F2n-1 + F2n-2, logo, F2n-1 = F2n-F2n-2Reply the number of the above reservations we will have: F2 + F4 -F2 + F6-F4+... F2n-F2n-2 Canceling all cancellations will have: F1 + F3 + F5 + F7+...+F2n-1=F2nSum fibonati numbers, soHow the sum of all Fibonati numbers is given: F1 +F2 +F3 +F4+... F(2n+2) -1E odd that Finobacci number amount is given according to:F1+F3 +F5 +F7+... F2nThaleated by subtracting a member from both levels, there will be an amount of fibonacci number to: F2 +F4 +F6+F8+...+F2n = F2n+2-F2n-1 We then have:F2+F4 +F6+F8+...+F2n = F2n+1 -1Fibonacci Pythagoric Fibonacci Fibonacci numbers are also associated with pygagoric triai. The latter are tripled in numbers, which can serve as the lateral length of a rectangular triangle. Consider any of the four consecutive Fibonati numbers, such as 1,2,3 and 5. The sum of the numbers of 1x5=5, twice the number, over 2(2x3)=12, and 22+32 =13 squares of terms is a pitagoor triple, which in this case would be 5,12 and 13. The proportions of the Fibonati sequence in the Fibonachi sequence, if we apply a proportion between two consecutive terms, we find a ratio of 1.618 or 0.618. This ratio, also known by the number of gold, is a universal part of natural growth. Studies have also shown that a person who is also a part of nature grows and thinks according to 1,618. The Fibonati sequence applies to physicsWe see that the Fibonati sequence is also applied to physics, more suitable for light-ray optics. So, let's consider two glass panels, with different refraction indices, juxtamosoned on top of each other. The ray of light that strikes this set can carry reflections and deviations. Count the number of possible light rays on these roads, gradually increasing the number of reflections on these roads. When we interpret a figure, we see that the number of roads follows the Fibonachi sequence. Representing the number of reflections, the letter n, the number of paths will be F(n), the fibonati number. Plant branches A certain plant, such as sneezing or barley, indicates the number of fibonati inheritance at its growth points. When the plant has a new joystick, it takes two months to grow before the branches become strong enough. If the branches of plants every month, then, at the point of the branch, we get branches corresponding to the fibonati numbers. Bee reproduction We can determine the number of bees in each generation of zângão family tree using the Fibonati sequence. only one parent (because they are from an unfertilized egg), and females require both parents (because they are from a fertilized egg)Nautilus shell or Bromeliad LeafWho we will create squares where the edges are means proportional to the elements of the Fibonati sequence as 1,1,2,3,5,8,13, ... and to make them geographically accessible, you can trace the perfect spiral.

This situation can also be observed in several living organisms, for example: On the tail of a chameleon In elephant tusks, if they are endlessly growing in the seeds of returns. In this case, there are two sets of spirals: 21 clockwise and 34 counterclockwise. In the seeds of pine cones, eight radiate clockwise and 13 counterclockwise. Each new piece has the sum of the two predecessors. ArtsThis mathematical resources were also one of the main brands of the Renaissance. Leonardo da Vinci Mona Lisa uses the relationship between the trunk and the head and the relationship between the facial elements. The great pyramids of the Each block are 1,618 times higher than the block level immediately above. In some pyramids, the width of the inner chambers is 1618 times their width. Human body If a person divides his height at a distance between the navel and head, the result will be approximately 1,618. 1,618.