Fibonacci: A Man of Nature and Patterns

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Abstract:

A mathematician named Leonardo of Pisa noticed a pattern that occurred in nature and noticed it appeared everywhere. This widely known sequence is called the Fibonacci sequence.

Introduction:

- Fibonacci was taught mostly in North Africa

- Fibonacci noticed a pattern in the commerce in each country.

- He noticed that the Hindu-Arabic decimal system was far superior than the Roman system.

The Formation:

- Write out each sequence and add one term from the next.

$$2 = 1 + 1 \quad or \quad F_3 = F_1 + F_2$$
$$3 = 1 + 2 \quad or \quad F_4 = F_2 + F_3$$

- Now we can rewrite this sequence into an equation.

$$F_1 = F_2 = 1,$$
$$F_n = F_{n-2} + F_{n-1}$$
$$for\ n \geq 3.$$

- Albert Girard was the mathematician behind modern day notation.

Perfection:

- The Greeks referred this number to the golden ratio.

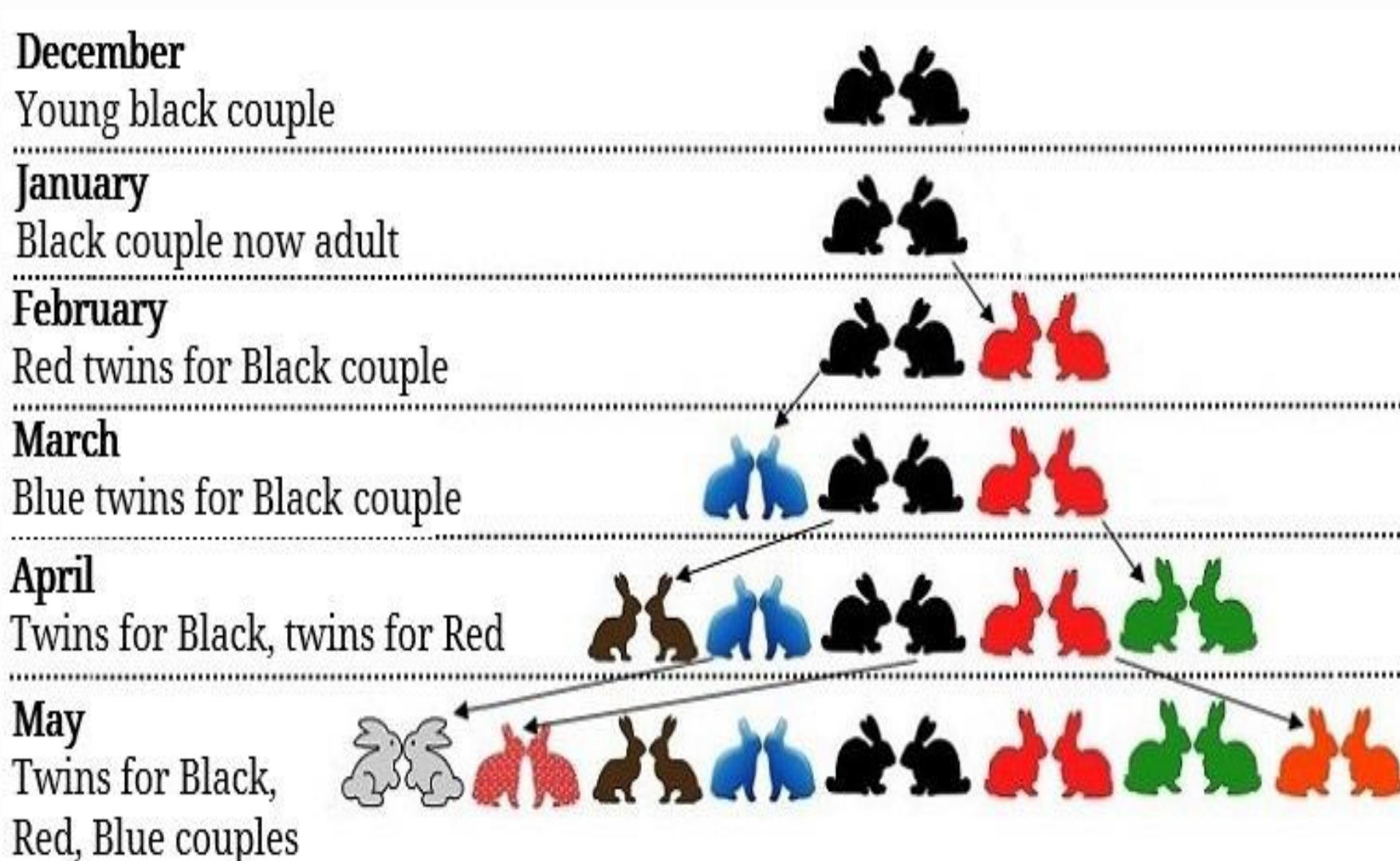- *This ratio* $\phi = \frac{1}{2}(1 + \sqrt{5})$ has been used in many fields.

Emergence:

- Fibonacci proposed the following about a group of rabbits given certain conditions.

- During a successive number of times, we see this sequence with these rabbits.

December — Young black couple
January — Black couple now adult
February — Red twins for Black couple
March — Blue twins for Black couple
April — Twins for Black, twins for Red
May — Twins for Black, Red, Blue couples

Retrieved from
http://oldeuropeanculture.blogspot.com/2018/02/fibonacci_24.html

Resources:

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