Study of the Occurrence and Function Modeling of Prime Palindromes

Romero Cruz, Patricia

The existence of the prime numbers has being documented since 300 AD when mathematicians like Euclid found this strange and beautiful numbers. If finding a prime number on the naturals is awkward, how stranger will it be finding a prime that is a palindrome? This research wants to make a model that could find prime palindromes on the real numbers using as a sample of the numbers from 0 to 100,000. The hypothesis was that if the researcher use regression techniques then she would find a function that could find prime palindromes. The researcher make a search of the prime numbers from 0 to 100,000 and from them she identify the ones that were palindromes. Then she counted the position of each one respect of the prime numbers and used the prime-counting function (p(x)~x/ln(x)) to estimate the position too, then she organize on tables and graphs where the points are the position vs. the prime palindrome. Finally, the researcher using regression techniques found the line that best fit the numbers. To find the better line the researcher used the Pearson correlation formula in order to establish the best regression line. Although the researcher did not find a function that model the prime palindromes, she could establish a piece-wise function that has a margin of error of approximately 0.0007%, and some descriptive data about the existence of this rare numbers. On future research, the researcher wants to expand the sample in order to obtain better results. Contributions to STEM with this research are, for example, cryptology because of the use of prime numbers to create codes helps to create them stronger.

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