The Prime as A consequence of Skip Number

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INTRODUCTION

Primes are very interesting numbers. When we say prime we refer to a number which does not have any proper divisor. Where as composite numbers refer to numbers having proper dividers. Primes are distributed on the number line in a very mysterious way. There are very large gaps or gaps might be very small too. To find primes we don't have a proper formula or a function such that for a given input we get a prime output. Also there is no well pattern found in primes.

In this paper, we will see how primes can be thought of skip numbers. By skip numbers I mean the numbers which are skipped. Primes are skipped only due to the fact that they have No proper divisors. In this paper we will define the primes on the basis of skip function and between function.

THE SKIP FUNCTION AND BETWEEN FUNCTION

On the numberline if we consider any two numbers say 4 and 10 the between fuction tells you how many numbers exist between 4 and 10 excluding 4 and 10. That is we define:

$$B_{m\rightarrow n} \text{ Such that } m < n \ \forall m,n \in \mathbb{N} \text{ then } B_{m\rightarrow n} = n\text{-}m\text{-}1$$

Where as the Skip function S(kx) tells you how many numbers are skipped for a given number x and it's K^{th} multiple. In a fact it is actually Between function $B_{m\rightarrow n}$ such that m=x and n=kx.

For example say 4 and 2 as 4= 2×2 we may write S(2×2)= $B_{2\rightarrow 4}$ = 4-2-1 = 1. That means there exist only one number between 4 and 2 and indeed we know its 3. We define the set of all numbers that are skipped as S= {n+1, n+2, ... kn-1} for a skip function S(kn). We can easily get the first skipped element n+1 and since we know how many are skipped we add n+ (kn-n-1) which is last skipped element.

The collection of sets S_1, S_2.... S_K for a number n and its corresponding 'k' are called skip collection. For e.g. the skip collection of 2 is {3}, {3, 4, 5} {3,4,5,6,7}...... and so on. Where {3} is skipped element for $B_{2\rightarrow 4}$. {3,4,5} for $B_{2\rightarrow 6}$ and so on.

THE DEFINATION OF PRIME

For a given α, if $\forall nk$ Such that $1<n<\alpha$ $B_{n\rightarrow nK}$ Skips α In all of its skip collection Then α Is a prime Number. This tells us that for a given number α We choose n which are smaller than α and greater than 1. Then we choose all k=2,3... And then we find all the skip collections for all k's. If the number α Exists in all collections then we can say that It is a prime.

If the number α is composite then it is not skipped and does not occur in any of skip collections till nk<α.

This functions are not new and we are just representing numbers which basically are not multiples and indeed skipped under some of k's. Since No prime can be generated multiplying two other integers other than its improper divisors we observe that they are skipped.

The whole defination of becomes incorrect as we drop the statement 1< n, infact if we consider n=1 the set skips all elements increase value of k. Also I could not come up with any possible proof to show that the following works. Thus we get a new definition of prime in terms of skipped elements.

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