Hello World!

Jeevman Banggore

May 21, 2024

1 HDTN:Introduction

A highly divisible triangle number is the sum of consecutive natural numbers. The question being proposed is how to find the divisors of hdtn, as a hdtn can either be odd or even, we assume that there are two classifications of hyper-symetry due to the existance of common multiples between factors. From those factors the primes must be accounted for as unique factors. I think one can therefore disect and recombine some prime yielding logic to work for yielding divisors, hence I will attempt to disect the prime finding code and alter its form to yield, the divisors of a number, as a prime involves checking for possible divisors, and the question is how to find the divisors of a hdtn, which might contain primes, non-primes and both primes and non-primes. :)
Following I will describe the structure of the document, Encapsulation, Consideration, Decomposition, Recomposition.

2 Encapsulation

2.0.1 1 consideration

The question is how to find the divisors of hdtn, a hdtn can be either odd or even. The above is a function from the PRIME finder document, allowing for classification of x as either odd or even. Naturally a question arises, if hdtns can be odd and even, and no prime is even hence all primes lie in the odd domain, is it possible that a hdtn of odd denomination is a prime, and hence has no divisors. The hdtn sequence is as follows:
(1+2)=3
(1+2+3)=6
(1+2+3+4)=10
(1+2+3+4+5)=15
(1+2+3+4+5+6)=21
I will limit my assumptions to the above, assumption one as a prime number is a unique factor and hence a "building block" of other numbers, it fills in the gaps left by multiples due to the fact that multiplication paths of factors cover finite and cyclical points. Hence if the starting factors are two and three, gaps are left in 5, and 7 and so on. So primes are the factors that fill the implied missing spaces. Therefore a prime cannot be the sum of consecutive natural numbers, starting from 1. As a small proof of this I will make use of two programs, one, a prime number finder, and two a hdtn sequence yielder. Then it is implied that checking numbers from the sets yielded by the prime number finder and hdtn sequence yielder should hold no duplicates, each number set should be unique, and if such is true then no prime number is a hdtn, and therefore special rules may be able to be derived for bounds based on the location of primes.

2.0.2 Encapsulation: Odd and Even identity

$$f_{\not{O}\not{E}}(x) = y \begin{cases} True \mid x \mod 2 = 0 \\ False \mid otherwise \end{cases} \tag{1}$$

2.0.3 Encapsulation: Domain of multiples

$$[\sigma] = \left[[m, \tau_i \in [2... \mid \tau \mid], [\tau]] \rightarrow x, y \mid \begin{cases} x * y \mid x * y <= \ \tau_{|\tau|} \\ \wedge \\ x * y \mid x * y \mod 2 \neq 0 \end{cases} \right] \tag{2}$$

Consideration of relation to divisors, if a hdtn is a multiple of a number it is dividable by that factor. Hence a method of computing divisors to hdtns can be used akin to the one used in the prime number finder. A sequence of hdtn are computed. Then the list is parsed one bye one and the sum of the divisor list is returned after the divisors are mapped to one. The divisors come from computing a "hit". An inequality is used where the number being approched is the hdtn, if the inequality cannot be equal to the hdtn then the hdtn is not a multiple of that factor. Due to the implimentation of a inequality I will first make general protoypes in python.