

## **Infinity**

### **The Infinite Series of Numbers**

Here are the three number rules:

1. *Initial Rule.* The initial finite number is 0.
2. *Successor Rule.* Every finite number  $n$  is surpassed by its successor  $n+1$ . More formally, for every finite number  $n$ , there exists a greater finite number  $n+1$ . The result is the infinite series of finite numbers 0, 1, 2, 3, and so on.
3. *Infinity Rule.* Since the series of finite numbers is infinite, there has to be some number of finite numbers. But that is an infinite number. So the infinity rule states that there exists an infinite number, which is greater than every finite number. Mathematicians refer to this infinite number as  $\omega$ .

### **The Infinite Series of Ever Greater Spiritual Computers**

The spiritual computers are defined by three rules:

1. *Initial Rule.* There is an initial rank of angels. These angels are spiritual computers just slightly more perfect than human animals. They are more powerful, more intelligent and more knowledgeable, and more benevolent.
2. *Successor Rule.* Every rank of angels is surpassed by a successor rank of more perfect angels. These successor angels are also spiritual computers. The angels on each successor rank are twice as perfect as the angels on the previous rank. They are twice as powerful, twice as intelligent and knowledgeable, and twice as benevolent. This rule implies an infinite ladder of ever more perfect finite angels.
3. *Infinity Rule.* Just as the infinite series of finite numbers is surpassed by an infinite number, so the infinite series of finite spiritual ranks is surpassed by an infinite spiritual rank. While the finite spiritual ranks contain many angels, the infinite spiritual rank contains only a single infinite spiritual machine. This infinitely perfect spiritual machine is infinitely powerful, infinitely intelligent and knowledgeable, and infinitely benevolent. This infinite spiritual machine is God.

### The Even Numbers

$n$	0	1	2	3	4	5	6	7	8	9	10	...
Is $n$ even?	yes	no	yes	...								
Is $n$ even?	1	0	1	0	1	0	1	0	1	0	1	...

### The Prime Numbers

$n$	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	...
Is $n$ prime?	0	0	1	1	0	1	0	1	0	0	0	1	0	1	0	0	0	1	...

**The Goldbach Conjecture:** Every even number is the sum of two primes.

$n$	2	4	6	8	10	12	14	16	18	20	...
Sum of two primes?		2+2	3+3	3+5	5+5	5+7	7+7	5+11	7+11	9+11	...
Is $n$ even?	1	1	1	1	1	1	1	1	1	1	...

### Algorithm for figuring out Goldbach Conjecture:

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At time 0, set GC equal to true. // Assume the conjecture is true.
for n going from 0 to infinity, do {
    set check to true;
    if (n is even) then {
        if (n is the sum of two primes)
            then set check to true else set check to false; }
    // if check ever turns out to be false, then theConjecture will always be false
    // because false & false is false and true & false is false.
    theConjecture = theConjecture & check; }
At time 1, the answer is theConjecture.
    
```

$n$	0	1	2	3	4	5	6	7	8	...	$n$	...	$\omega$
Time	0	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{15}{16}$	$\frac{31}{32}$	$\frac{63}{64}$	$\frac{127}{128}$	$\frac{255}{256}$	...	$\frac{2^n - 1}{2^n}$	...	1
GC	1	1	1	1	1	1	1	1	1	...	?	...	?