

## INFINITE AND SYRACUSE SEQUENCE

This study makes a new approach of the  $3n+1$  problem. New writing and new reading of sequences.

Using the rule  $n$  even,  $n/2$  we give for each sequence  $S(n)$   $n$  odd an origin even at the infinite.

To expand the integer  $n$  odd ending the sequence  $S(n)$ , using the rule  $n$  odd:  $3n+1$  we just tie one sequence with an other whose  $3n+1$  belongs.

Let us see that in ARRAY 1 with  $S(7)$  as example and the development of the integer 7.

Conclusion:

All sequences  $S(n)$  are infinite decreasing.

Only one sequence ends by 1 it is  $S(1)$ .