**divisible**(X, Y) =

{ true , daca X % Y = 0

{ divisible(X, Y+1) , daca X > Y + 1

{ false , altfel

**is\_prime**(N) =

{ false , daca N < 2

{ true , daca N = 2

{ not(divisible(N, 3) , daca N >2

**prime\_list**(N, L) =

{ [] , daca N <= 1

{ N U prime\_list(N-1, L) , daca is\_prime(N) = true

{ prime\_list(N-1, L) , daca is\_prime(N) = false

**partition**(N, l1,...ln) =

{ [] , daca N = 0

{ l1 U partition(N-l1, l2,...,ln) , daca N >= l1,

{ partition(N, l2,...,ln)

**Solutions**(N) = partition(N, prime\_list(N))

TESTE:

divisible(5, 2) = divisible(5, 3) = divisible(5, 4) = false

divisible(8, 2) = true

divisible(35, 2) = divisible(35, 3) = divisible(35, 4) = divisible(35, 5) = true

is\_prime(1) = false

is\_prime(2) = true

is\_prime(5) = !divisible(5, 2) = !false = true

is\_prime(6) = !divisible(6, 2) = !true = false

prime\_list(5) = 5 U prime\_list(4) = 5 U prime\_list(3) = 5 U 3 U prime\_list(2) = 5 U 3 U 2 U prime\_list(1) = 5 U 3 U 2 U [] = [ 5, 3, 2]