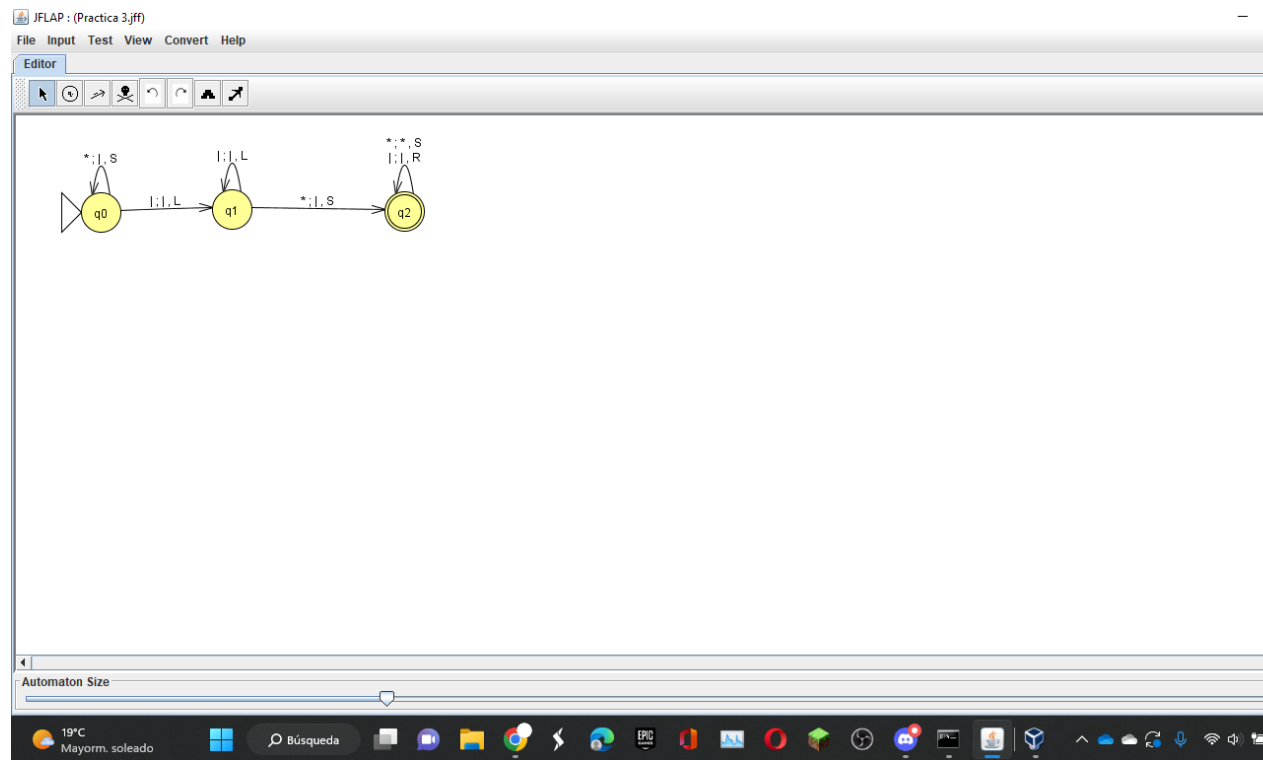


# Practica 3

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## Ejercicio 1



Maquina de Turing

## Ejercicio 2

```
octave:1> evalrecfunction('<<pi^1_1|sigma(pi^3_3)>|sigma(pi^4_4)>',7,3,1)
<<n^1_1|sigma(n^3_3)>|sigma(n^4_4)>(7,3,1)
<<n^1_1|sigma(n^3_3)>|sigma(n^4_4)>(7,3,0)
<n^1_1|sigma(n^3_3)>(7,3)
<n^1_1|sigma(n^3_3)>(7,2)
<n^1_1|sigma(n^3_3)>(7,1)
<n^1_1|sigma(n^3_3)>(7,0)
n^1_1(7) = 7
sigma(n^3_3)(7,0,7)
n^3_3(7,0,7) = 7

sigma(7) = 8
sigma(n^3_3)(7,1,8)
n^3_3(7,1,8) = 8

sigma(8) = 9
sigma(n^3_3)(7,2,9)
n^3_3(7,2,9) = 9

sigma(9) = 10
sigma(n^4_4)(7,3,0,10)
n^4_4(7,3,0,10) = 10

sigma(10) = 11
ans = 11
```

Funcion Recursiva

### Ejercicio 3

$Q = (3, s)$

s:

```
 $X_4 := X_1;$   
  while  $X_2 \neq 0$  do  
     $X_4 := X_4 + 1;$   
     $X_2 := X_2 - 1$   
  od  
  
  while  $X_3 \neq 0$  do  
     $X_4 := X_4 + 1;$   
     $X_3 := X_3 - 1$   
  od  
 $X_1 := X_4;$ 
```

### Programa While