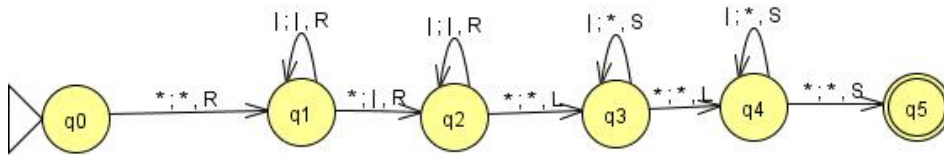


Práctica 3

Diego Ruz Jiménez

1. Máquina de Turing

Define the TM solution of exercise 3.4 of the problem list and test its correct behaviour.



2. Funciones Recursivas

Define a recursive function for the sum of three values.

```
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σ(π44)(1,2,1,4)
π44(1,2,1,4) = 4

σ(4) = 5
σ(π44)(1,2,2,5)
π44(1,2,2,5) = 5

σ(5) = 6
ans = 6
>> evalrecfunction('addition3',1,2,3)
addition3(1,2,3)
<<π11|σ(π33)>|σ(π44)>(1,2,3)
<<π11|σ(π33)>|σ(π44)>(1,2,2)
<<π11|σ(π33)>|σ(π44)>(1,2,1)
<<π11|σ(π33)>|σ(π44)>(1,2,0)
<π11|σ(π33)>(1,2)
<π11|σ(π33)>(1,1)
<π11|σ(π33)>(1,0)
π11(1) = 1
σ(π33)(1,0,1)
π33(1,0,1) = 1

σ(1) = 2
σ(π33)(1,1,2)
π33(1,1,2) = 2

σ(2) = 3
σ(π44)(1,2,0,3)
π44(1,2,0,3) = 3

σ(3) = 4
σ(π44)(1,2,1,4)
π44(1,2,1,4) = 4

σ(4) = 5
σ(π44)(1,2,2,5)
π44(1,2,2,5) = 5

σ(5) = 6
ans = 6
>> |

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```

3. Código WHILE

Implement a WHILE program that computes the sum of three values. You must use an auxiliary variable that accumulates the result of the sum.

```
X4 := X1
while X2 ≠ 0 do
  X4 := X4 + 1;
  X2 := X2 - 1;
od
while X3 ≠ 0 do
  X4 := X4 + 1;
  X3 := X3 - 1;
od
X1 := X4;
```