Práctica 3

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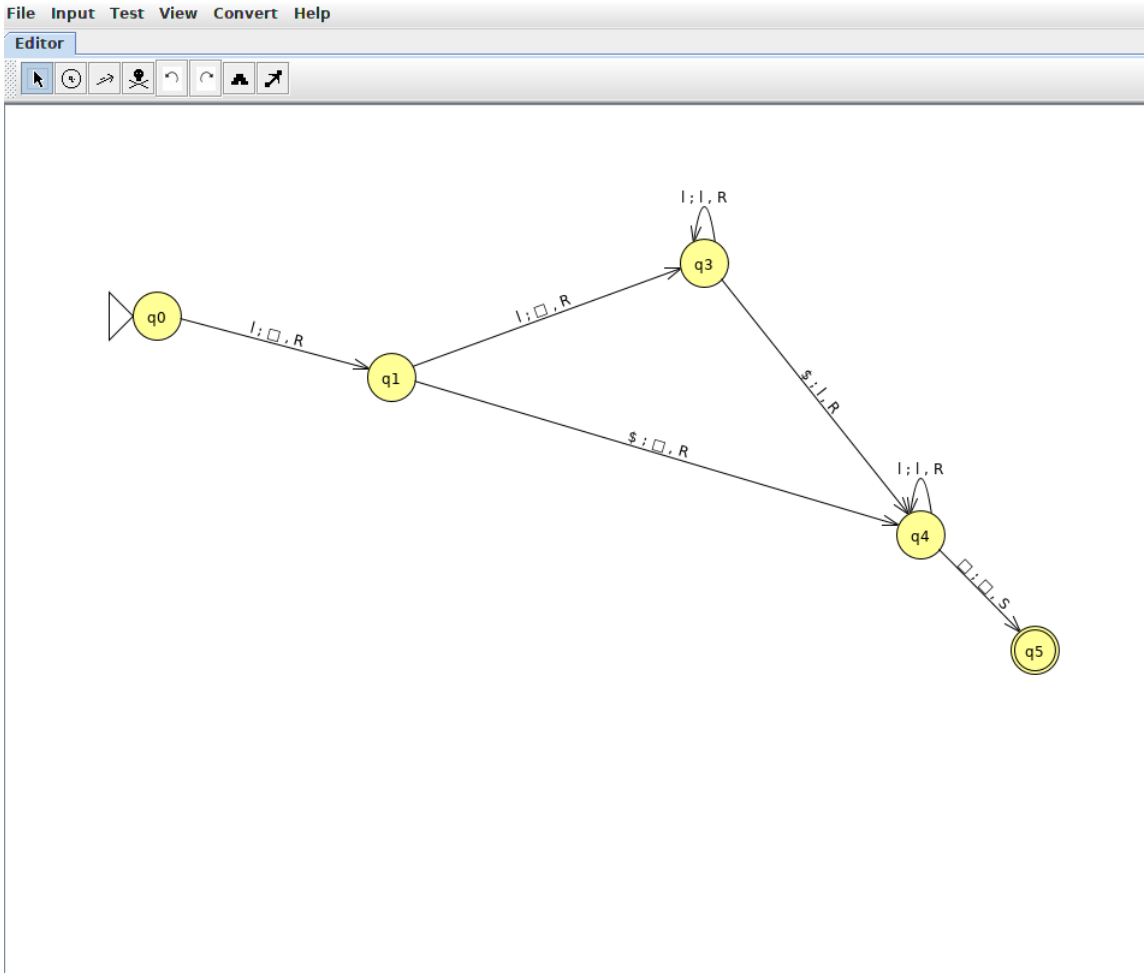
Activities

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



Input	Result
I$III	Accept
III$IIII	Accept
IIII	Reject
$	Reject
IIIIII$I	Accept

Figure 1: Comprobaciones

2.Define a recursive function for the sum of three values

```
Suma3: NA -> N
Suma3(x, y, z) = x + y + z;
Suma3 = <pi_1_1|succesor4>where
succesor4 : N4 -> n
succesor4 : (x, y, z, t) = t + 1;
sucessor4 = sigma(pi_4_4)
Suma3 = <pi_1_1|sigma(pi_4_4)>
```

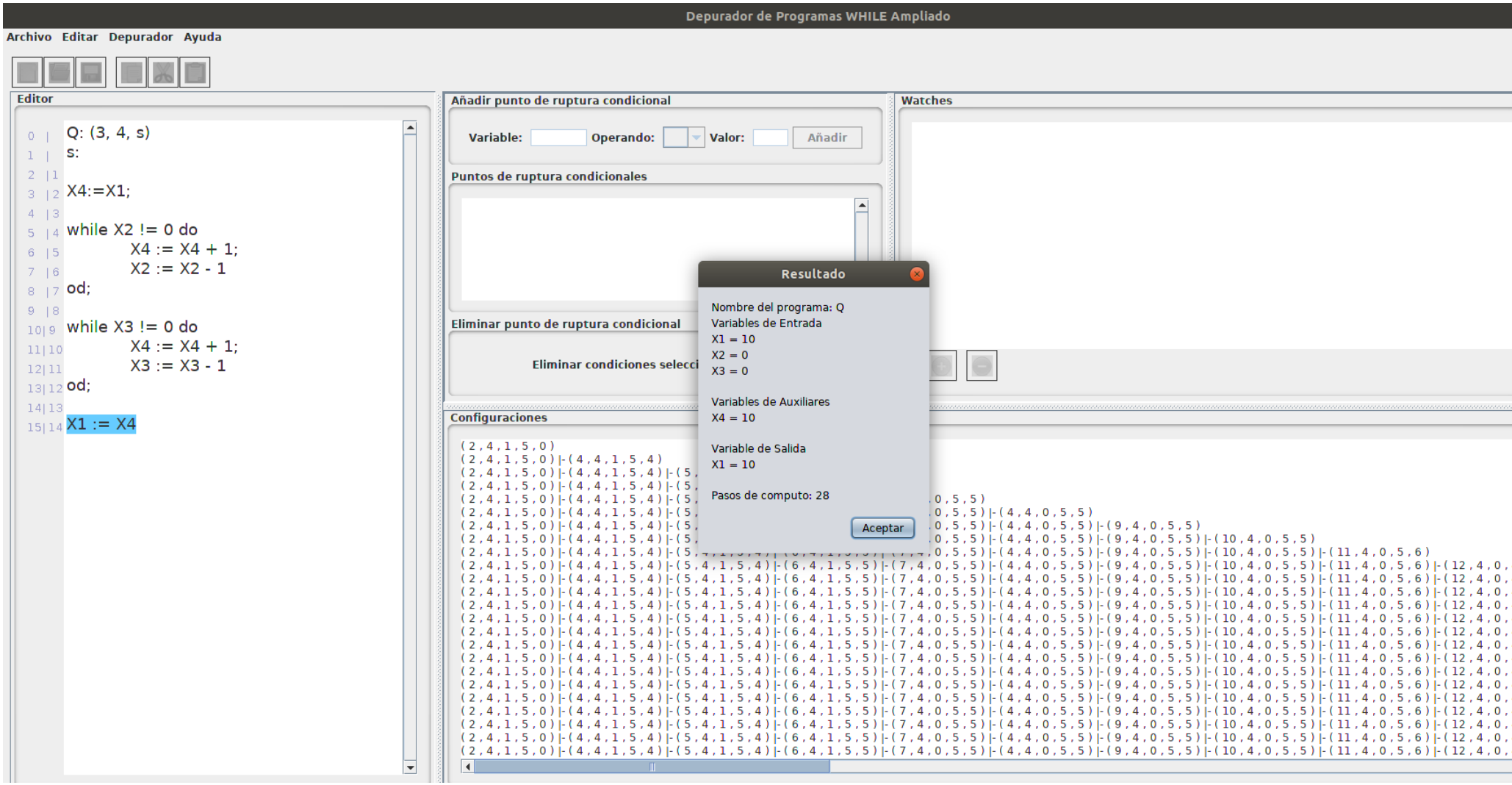
3.Implement a WHILE program that computes the sum of three values. You must use an auxiliary variable that accumulates the result of the sum.

$\mathrm{Q} = (3, 4, \mathrm{s})$

s:

$X_4 := X_1$

while $G(X_2) \neq 0$ **do**
$X_4 := X_4 + 1;$
$X_2 := X_2 - 1;$
od
while $G(X_3) \neq 0$ **do**
$X_4 := X_4 + 1;$
$X_3 := X_3 - 1;$
od
$X_1 := X_4$


Depurador de Programas WHILE Ampliado
Archivo Editar Depurador Ayuda
Editor
0 | Q: (3, 4, s)
1 | s:
2 |1
3 |2 X4:=X1;
4 |3
5 |4 while X2 != 0 do
6 |5 X4 := X4 + 1;
7 |6 X2 := X2 - 1
8 |7 od;
9 |8
10|9 while X3 != 0 do
11|10 X4 := X4 + 1;
12|11 X3 := X3 - 1
13|12 od;
14|13
15|14 X1 := X4
Añadir punto de ruptura condicional
Variable:
Operando:
Valor:
Añadir
Puntos de ruptura condicionales
Eliminar punto de ruptura condicional
Eliminar condiciones selecci
Watches
Configuraciones
(2,4,1,5,0)
(2,4,1,5,0)|-(4,4,1,5,4)
Resultado
Nombre del programa: Q
Variables de Entrada
X1 = 10
X2 = 0
X3 = 0
Variables de Auxiliares
X4 = 10
Variable de Salida
X1 = 10
Pasos de computo: 28
Aceptar