Practica 4

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Actividad 1

Create the simplest WHILE program that computes the diverge function (with zero arguments) and compute the codification of its code.

```
F("(1, X1=X1+1; while X1!=0 do X1=X1 od)", [0])
complexity has reached 1000, press Ctrl-C to stop, or any other key to continue...

CODE2N("X1:=X1+1;while X1!=0 do X1:=X1 od")
ans = 139126
```

Actividad 2

Create an Octave script that enumerates all the vectors.

```
i = 0
while (true)
  godeldecoding(i)
  i++
endwhile
```

```
>> enumeracionVectores

i = 0
ans = [](0x0)
ans = 0
ans = 0
ans = 1
ans =

  0  0

ans = 2
ans = 1
ans = 3
ans =

   0   0   0

ans = 4
ans =

  1  0

ans = 5
ans = 2
ans = 6
ans =

   0   0   0   0

ans = 7
ans =

   1   0   0

ans = 8
ans =

  0  1

ans = 9
ans = 3
ans = 10
ans =

   0   0   0   0   0

ans = 11
ans =

   1   0   0   0
```

Actividad 3

Create an Octave script that enumerates all the WHILE programs.

```
i = 0
while (true)
  N2WHILE(i)
  i++
endwhile
```

```
>> enumeracionWHILE

i = 0
ans = (0, X1=0)
ans = 0
i = 1
ans = (1, X1=0)
ans = 1
i = 2
ans = (0, X1=0; X1=0)
ans = 2
i = 3
ans = (2, X1=0)
ans = 3
i = 4
ans = (1, X1=0; X1=0)
ans = 4
i = 5
ans = (0, X1=X1)
ans = 5
i = 6
ans = (3, X1=0)
ans = 6
i = 7
ans = (2, X1=0; X1=0)
ans = 7
i = 8
ans = (1, X1=X1)
ans = 8
i = 9
ans = (0, X1=0; X1=0; X1=0)
ans = 9
i = 10
ans = (4, X1=0)
ans = 10
i = 11
ans = (3, X1=0; X1=0)
ans = 11
i = 12
ans = (2, X1=X1)
ans = 12
i = 13
ans = (1, X1=0; X1=0; X1=0)
ans = 13
i = 14
ans = (0, X1=X1; X1=0)
ans = 14
i = 15
```