

# Practica 4

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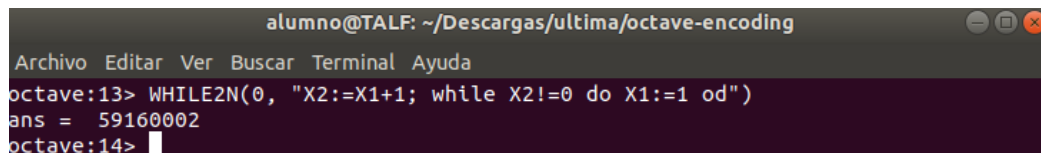
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## Ejercicios

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

.

```
Q = (0,s)
s:
X2 := X1 + 1;
while X2 != 0 do
    X1 := 1
od;
```

A screenshot of an Octave terminal window. The title bar reads 'alumno@TALF: ~/Descargas/ultima/octave-encoding'. The menu bar includes 'Archivo', 'Editar', 'Ver', 'Buscar', 'Terminal', and 'Ayuda'. The terminal shows the command 'octave:13> WHILE2N(0, "X2:=X1+1; while X2!=0 do X1:=1 od")' and the output 'ans = 59160002'. The prompt 'octave:14>' is visible at the bottom.

```
alumno@TALF: ~/Descargas/ultima/octave-encoding
Archivo Editar Ver Buscar Terminal Ayuda
octave:13> WHILE2N(0, "X2:=X1+1; while X2!=0 do X1:=1 od")
ans = 59160002
octave:14>
```

2. Create an Octave script that enumerates all the vectors..

```
function imprVECTORES()
    i=0;
    while (i>=0)
        [' (' num2str(godeldecoding(i) ' )']
        i = i + 1;
    endwhile
end
```

```

octave:1> imprVECTORES()
ans = (
ans = (0
ans = (00
ans = (1
ans = (000
ans = (10
ans = (2
ans = (0000
ans = (100
ans = (01
ans = (3
ans = (00000
ans = (1000
ans = (001
ans = (20
ans = (4
ans = (000000
ans = (10000
ans = (0001
ans = (010
ans = (11
ans = (5
ans = (0000000
-- less -- (f)orward, (b)ack, (q)uit...skipping...

```

3. Create an Octave script that enumerates all the WHILE programs.

```

function program = imprimirNProgramasWhile()
    for i=0: z-1;
        disp(N2WHILE(i))
        i = i + 1;
    end
end

```

```

alumno@TALF: ~/Descargas/talfuma/software/Whilelanguage/encoding
Archivo Editar Ver Buscar Terminal Ayuda

octave:1> imprimirNProgramasWhile(7)
(0, X1:=0)
(1, X1:=0)
(0, X1:=0; X1:=0)
(2, X1:=0)
(1, X1:=0; X1:=0)
(0, X1:=X1)
(3, X1:=0)
octave:2>

```