

Teoría de Autómatas y Lenguajes Formales

Práctica 4: Ejercicio 1

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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 := 0
  od
```

Figura 1:

No me funciona el script :

```
>> CODE2N("X1:=0;while X1!=0 do X1:=0 od")
error: invalid empty index expression
error: called from
CODE2N at line 45 column 18
```

Figura 2:

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

```
>> function printNvectors(N)
for i=0:N-1
x=num2str(godeldecoding(i))
disp (x)
end
end
>> printNvectors(12)
x =
<
x = 0
0
x = 0 0
0 0
x = 1
1
x = 0 0 0
0 0 0
x = 1 0
1 0
x = 2
2
x = 0 0 0 0
0 0 0 0
x = 1 0 0
1 0 0
x = 0 1
0 1
x = 3
3
x = 0 0 0 0 0
0 0 0 0 0
```

Figura 3:

3. Create an Octave script that enumerates all the WHILE programs.
no funciona el script

```
error: invalid empty index expression
error: called from
    N2WHILE at line 20 column 24
    printNwhilePrograms at line 3 column 1
>>
>> printNwhilePrograms(100)
error: invalid empty index expression
error: called from
    N2WHILE at line 20 column 24
    printNwhilePrograms at line 3 column 1
>> printNwhilePrograms(100)
error: invalid empty index expression
error: called from
    N2WHILE at line 20 column 24
    printNwhilePrograms at line 3 column 1
>> printNwhilePrograms(100)
error: invalid empty index expression
error: called from
    N2WHILE at line 20 column 24
    printNwhilePrograms at line 3 column 1
>> printNwhilePrograms(100)
error: invalid empty index expression
error: called from
    N2WHILE at line 20 column 24
    printNwhilePrograms at line 3 column 1
>> printNwhilePrograms(100)
error: invalid empty index expression
error: called from
    N2WHILE at line 20 column 24
    printNwhilePrograms at line 3 column 1
>> printNwhilePrograms(100)
error: invalid empty index expression
error: called from
    N2WHILE at line 20 column 24
    printNwhilePrograms at line 3 column 1
>> printNwhilePrograms(100)
error: invalid empty index expression
error: called from
    N2WHILE at line 20 column 24
    printNwhilePrograms at line 3 column 1
.. |
```

Figura 4: