

PRACTICA 5

Puzles Hash

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Tareas por realizar:

Elegid una función hash H con salida de n -bits con $n \geq 256$.

Función hash elegida SHA256.

1. Para la función H, realizad, en el lenguaje de programación que queráis, una función que tome como entrada un texto, un número de bits b y una cadena de n bits. Creará un id que concatene dicha cadena de n bits con el texto. Pegará a ese id cadenas aleatorias x de n bits hasta lograr que $H(id||x)$ tenga sus primeros b bits a cero. La salida será un bloque que contenga el id , la cadena x que haya proporcionado el hash requerido, el valor del hash y el número de intentos llevados a cabo hasta encontrar el valor x apropiado.

```
#!/bin/bash
# -*- coding: utf-8 -*-

function generador {
    for ((i=0 ; i< 56 ; i++))
    do
        echo $((0 + RANDOM % 2))
    done
}

function generadorceros {
    for ((i=0 ; i< $B ; i++))
    do
        echo $((0 + RANDOM % 1))
    done
}

function incluirceros {
    has=$(echo $has | sed -e 's/\(.\)/\1\n/g') #para poder
recorrer el hash
    for i in $has;
    do
        BIN=$(echo "obase=2; ibase=16; $i " | bc ) # bc es
sensible a minusculas, no funciona, quita los ceros de la
izquierda
        size=${#BIN}
```

```

tam=$size
for tam in 0
do
    case $size in
        1)
            echo "000$BIN";;
        2)
            echo "00$BIN";;
        3)
            echo "0$BIN";;
        4)
            echo "$BIN";;
    esac
done
done
}

function ejeruno {
    condicion=0
    until [[ $condicion -gt 100 ]];
    do

        gene=$(generador) #cadena aleatoria x de n bits
        gene=$(echo $gene | tr -d '[:space:]') # quita
espacios de la cadena aleatoria x de n bits(256)
        ids=$gene$1 # id que concatena una cadena de n
bits con el texto. la cadena ha de ser aleatoria
        x=$(echo 'ibase=2;obase=10000;$gene'|bc) #
pasa de binario a hexadecimal el valor x
        idxs=$ids$x # concateno o pego el ids anterior a x.

        has=$(echo -n "$idxs" | sha256sum | awk '{print
$1}') #genero hash
        has=$(echo $has | tr '[:lower:]' '[:upper:]') #paso
valor hexa de min a mayuscula
        BIN=$(incluirceros $has) # devuelve la cadena
hash en binario
        BIN=$(echo $BIN | tr -d '[:space:]') #quito los
espacios
        recorto=$(echo ${BIN:0:$B}) # cogo los primeros b
bits para comparar
        NUM=$(generadoraceros $B)
        NUM=$(echo $NUM | tr -d '[:space:]')

```

```

        if [ "$recorto" = "$NUM" ]; then
            echo -e "ID ="$ids "\n""Cadena x = "$x "\n
Valor hash = "$has"\n N° intentos = "$condicion
            exit 0
            break
        fi

        let condicion=$condicion+1
    done
}

```

```

TEXTO="mati"
B=2
RESULTADO=$(ejeruno $TEXTO $B $CADENA)
echo $RESULTADO

```

Salida del programa:

```

mati@mati-Lenovo-Z50-70:$ ./script.sh
ID =
e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855m
ati
Cadena x = F0EDB9D5082858 Valor hash =
21D01396FBA7C078E55CD8E5B6DF4F06A19C34618FABC8C9ED962B824E88A
0B8
N° intentos = 1

```

```

mati@mati-Lenovo-Z50-70:~/Dropbox/4.1 informatica/SPSI/Practicas/Practica
5$ ./script.sh
ID =e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855mati
Cadena x = F0EDB9D5082858 Valor hash = 21D01396FBA7C078E55CD8E5B6DF4F06A1
9C34618FABC8C9ED962B824E88A0B8 N° intentos = 1

```

2. Construid una simulación de una blockchain en la que no emplearemos punteros. El primer bloque será la salida la función del apartado 1 teniendo como entrada vuestro nombre como mensaje, b = 2 y una cadena aleatoria de n bits. Los siguientes 9 bloques consistirán en la salida de la función del apartado 1 teniendo como entrada vuestro nombre como mensaje, b = 2 y el valor hash del bloque anterior como cadena de bits.

```
function ejerdos {
    CADENA=$(echo -n | sha256sum | awk '{print $1}') # la
primera cadena la generamos.
    cuenta=0
    until [[ $cuenta -gt 9 ]];
    do
        TEXTO="mati"
        B=2
        RESULTADO=$(ejeruno $TEXTO $B $CADENA)
        echo $RESULTADO
        CADENA=$(echo -n "$RESULTADO" | awk '{print
$4}') # pongo en todos los echo 3 argumentos menos en
hash que pongo 4 para que sea el unico y poder recogerlo
aqui, asi lo uso para el siguiente
        echo "Cadena hash usada para el siguiente
bloque" $CADENA
        let cuenta=$cuenta+1
    done
}

echo $(ejerdos)
```

Para este ejercicio usamos las funciones del ejercicio uno. **Salida:**

mati@mati-Lenovo-Z50-70:\$./script.sh

PRIMER BLOQUE

```
ID =
e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855m
ati
Cadena_X =
33CBE49F74867B3917286DD4B24F3674A86DFA7BC7B9EDA2D5AB795312132
DE1
Valor hash =
23A5CA71AE496FFE8C56B118B8D23885CFFA57892E7EA303C2046A14ED23FF
8D
Nº_Intentos = 1
```

BLOQUE N.º 2

```
ID =
23A5CA71AE496FFE8C56B118B8D23885CFFA57892E7EA303C2046A14ED23FF
8Dmati
Cadena_X =
8BB441A6C184D0DFD46DEE1A221790C7ABE97001175808E62A57F558D5B26
8E2
Valor hash =
1135AC372652279F5851C7BEFB29D46011958CB48EF2CF069D14A12CB66CC
E45
```

Nº_ntentos = 10

BLOQUE N.º 3

ID =

1135AC372652279F5851C7BEFB29D46011958CB48EF2CF069D14A12CB66CC
E45mati

Cadena_X =

C38130524F02762BCD2BFD3EF3AC2D3543B1B87DA97118940493F0D17F02A
97D

Valor hash =

2B1ED12AEE7710A71363CB77757FE3973DA28F7EABDB7029BBAA274B1958A
3AA

Nº_ntentos = 1

BLOQUE N.º 4

ID =

2B1ED12AEE7710A71363CB77757FE3973DA28F7EABDB7029BBAA274B1958A
3AAmati

Cadena_X =

387D5493CC50A407223139CEF20F5D6295780F0C79EC948E8365518083B7E3
58

Valor hash =

3BE3C6F1D80382096C5E0F75A3ABD527A6DB8E7EDB70EA571514E47885EBF
D9F

Nº_ntentos = 3

BLOQUE N.º 5

ID =

3BE3C6F1D80382096C5E0F75A3ABD527A6DB8E7EDB70EA571514E47885EBF
D9Fmati

Cadena_X =

3B75E36A6A1DEEAC8A7D984F1B735EF7AAFDAAD9CED99140F144B3E787003
208

Valor hash =

2BA47A4F67789E2D53757299832941C5376B684F4F14C59898F5C1341D43BD
DB

Nº_ntentos = 0

BLOQUE N.º 6

ID =

2BA47A4F67789E2D53757299832941C5376B684F4F14C59898F5C1341D43BD
DBmati

Cadena_X =

DF93BFCD7527002602B3DAF374EDE151317BF4B469E3352C1DF2EE331464C
825

Valor hash =

170834A18CE6FD0CDC51DA2A9FF5F62F4340B629CB4F08A8A2FE2FD6039C77
8A

Nº_ntentos = 4

BLOQUE N.º 7

ID =
170834A18CE6FD0CDC51DA2A9FF5F62F4340B629CB4F08A8A2FE2FD6039C77
8Amati
Cadena_X =
65DC63D0309451A510252981AE2B5FD4081CA0C8EE5337D96DC961AE77785
9DB
Valor hash =
3405E2B0547E60FF51D4E524D7C2D1E4E24A016B935599FB1E7327B7F1AAAF
72
Nº_ntentos = 1

BLOQUE N.º 8

ID =
3405E2B0547E60FF51D4E524D7C2D1E4E24A016B935599FB1E7327B7F1AAAF
72mati
Cadena_X =
D6DE38E1DF9E30ADD222FF71176ED900CA6E04BD84E83AC2C9EE1C0A5B502
DD3
Valor hash =
2415A9D5A0C28A3F6848DD6F2F6404D0ECBB238FB4410FCA24D48234D1D96
A76
Nº_ntentos = 5

BLOQUE N.º 9

ID =
2415A9D5A0C28A3F6848DD6F2F6404D0ECBB238FB4410FCA24D48234D1D96
A76mati
Cadena_X =
8490E4254453D858DB5EF51EE918E8307BA8049D0070177B31B4F73711CDB
BA2
Valor hash =
36B296BD2883A17BAF41C6752952A3480C9F20D6CC72695A446311E95EAF36
AB
Nº_ntentos = 1

BLOQUE N.º 10

ID =
36B296BD2883A17BAF41C6752952A3480C9F20D6CC72695A446311E95EAF36
ABmati
Cadena_X =
13D3A3DFEA6DF49466603123101BBEFCDD512FD2A82158DE9275EAB988B89E
BAC
Valor hash =
201F74DA365F12EDB68DBBD0199BC9B08DE87308F95CDFEFB1F97DF646137
EFD
Nº_ntentos = 25

```

matl@matl-Lenovo-Z50-70:~/Dropbox/4.1 informatica/SPSI/Practicas/Practicam$ ./script.sh
ID = e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855matl Cadena_X = 33CBE49F74867B3917286DD4B24F3674A
86DFA78C7B9EDA2D5AB795312132DE1 Valor hash = 23A5CA71AE496FFE8C56B118B8D23885CFFA57892E7EA303C2046A14ED23FF8D N°_ntent
os = 1 Cadena hash usada para el siguiente bloque 23A5CA71AE496FFE8C56B118B8D23885CFFA57892E7EA303C2046A14ED23FF8D ID
= 23A5CA71AE496FFE8C56B118B8D23885CFFA57892E7EA303C2046A14ED23FF8Dmatl Cadena_X = 8BB441A6C184D0DFD46DDE1A221790C7ABE9
7001175808E62A57F558D5B268E2 Valor hash = 1135AC372652279F5851C7BEFB29D46011958CB48EF2CF069D14A12CB66CCE45 N°_ntentos
= 10 Cadena hash usada para el siguiente bloque 1135AC372652279F5851C7BEFB29D46011958CB48EF2CF069D14A12CB66CCE45 ID =
1135AC372652279F5851C7BEFB29D46011958CB48EF2CF069D14A12CB66CCE45matl Cadena_X = C38130524F02762BCD2BFD3EF3AC2D3543B1B8
7DA97118940493F0D17F02A97D Valor hash = 2B1ED12AEE7710A71363CB77757FE3973DA28F7EABDB7029BBA274B1958A3AA N°_ntentos =
1 Cadena hash usada para el siguiente bloque 2B1ED12AEE7710A71363CB77757FE3973DA28F7EABDB7029BBA274B1958A3AA ID = 2B1
ED12AEE7710A71363CB77757FE3973DA28F7EABDB7029BBA274B1958A3AAmatl Cadena_X = 387D5493CC50A407223139CEF20F5D6295780F0C7
9EC948E8365518083B7E358 Valor hash = 3BE3C6F1D80382096C5E0F75A3ABD527A6DB8E7EDB70EA571514E47885EBFD9F N°_ntentos = 3 C
adena hash usada para el siguiente bloque 3BE3C6F1D80382096C5E0F75A3ABD527A6DB8E7EDB70EA571514E47885EBFD9F ID = 3BE3C6
F1D80382096C5E0F75A3ABD527A6DB8E7EDB70EA571514E47885EBFD9Fmatl Cadena_X = 3B75E36A6A1DEEAC8A7D984F1B735EF7AAFDAAD9CED9
9140F144B3E787003208 Valor hash = 2BA47A4F67789E2D53757299832941C5376B684F4F14C59898F5C1341D43BDD8 N°_ntentos = 0 Cade
na hash usada para el siguiente bloque 2BA47A4F67789E2D53757299832941C5376B684F4F14C59898F5C1341D43BDD8 ID = 2BA47A4F6
7789E2D53757299832941C5376B684F4F14C59898F5C1341D43BDD8matl Cadena_X = DF93BFC7527002602B3DAF374EDE151317BF4B469E3352
C1DF2EE331464C825 Valor hash = 170834A18CE6FD0CDC51DA2A9FF5F62F4340B629CB4F08A8A2FE2FD6039C778A N°_ntentos = 4 Cadena
hash usada para el siguiente bloque 170834A18CE6FD0CDC51DA2A9FF5F62F4340B629CB4F08A8A2FE2FD6039C778A ID = 170834A18CE6
FD0CDC51DA2A9FF5F62F4340B629CB4F08A8A2FE2FD6039C778Amatl Cadena_X = 65DC63D0309451A510252981AE2B5FD4081CA0C8EE5337D96D
C961AE777859DB Valor hash = 3405E2B0547E60FF51D4E524D7C2D1E4E24A016B935599FB1E7327B7F1AAAF72 N°_ntentos = 1 Cadena has
h usada para el siguiente bloque 3405E2B0547E60FF51D4E524D7C2D1E4E24A016B935599FB1E7327B7F1AAAF72 ID = 3405E2B0547E60F
F51D4E524D7C2D1E4E24A016B935599FB1E7327B7F1AAAF72matl Cadena_X = D6DE38E1DF9E30ADD222FF71176ED900CA6E04BD84E83AC2C9EE1
C0A5B502DD3 Valor hash = 2415A9D5A0C28A3F6848DD6F2F6404D0ECBB238FB4410FCA24D48234D1D96A76 N°_ntentos = 5 Cadena hash u
sada para el siguiente bloque 2415A9D5A0C28A3F6848DD6F2F6404D0ECBB238FB4410FCA24D48234D1D96A76 ID = 2415A9D5A0C28A3F68
48DD6F2F6404D0ECBB238FB4410FCA24D48234D1D96A76matl Cadena_X = 8490E4254453D858DB5EF51EE918E8307BA8049D0070177B31B4F737
11CDBBA2 Valor hash = 36B296BD2883A17BAF41C6752952A3480C9F20D6CC72695A446311E95EAF36AB N°_ntentos = 1 Cadena hash usad
a para el siguiente bloque 36B296BD2883A17BAF41C6752952A3480C9F20D6CC72695A446311E95EAF36AB ID = 36B296BD2883A17BAF41C
6752952A3480C9F20D6CC72695A446311E95EAF36ABmatl Cadena_X = 3767404C01C9F82F846FC22E26B9367matl@matl-Lenovo-Z50-70:~/Dr

```

3. Los siguientes 10 bloques consistirán en la salida de la función del apartado 1 teniendo como entrada vuestro nombre como mensaje, b = 3 y el valor hash del bloque anterior como cadena de bits.

```

function ejertres {
    CADENA=$(echo -n | sha256sum | awk '{print $1}') # la
    primera cadena la generamos.
    cuenta=0
    until [[ $cuenta -gt 9 ]];
    do
        TEXTO="matl"
        B=3
        RESULTADO=$(ejeruno $TEXTO $B $CADENA)
        echo $RESULTADO
        CADENA=$(echo -n "$RESULTADO" | awk '{print
$4}'))
        let cuenta=cuenta+1
    done
}

```

Salida de la terminal:

```
matl@matl-Lenovo-Z50-70:$ ./script.sh
```

BLOQUE N.º 1

ID =

```
e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855m
ati
```


Cadena_X =
EA0B9786533C40D41DDC7B76A2C8ECE535706504F08407CB532E3A827D4B8
149
Valor hash =
2B3F5229804E55F539F320BDCD343E3AAE04D26F492E5EF33C167600EC31D5
E5
Nº_ntentos = 2

BLOQUE N.º 2

ID =
2B3F5229804E55F539F320BDCD343E3AAE04D26F492E5EF33C167600EC31D5
E5mati
Cadena_X =
9FC3834D2FD8664EA3FE23034FD6E6AD71047D7F13DE150342843067EBB17
8BE
Valor hash =
1FD76B7AF98D9E887C465200E384F07511FE71E85796434374C12A1C0CFDC5
BA
Nº_ntentos = 0

BLOQUE N.º 3

ID =
1FD76B7AF98D9E887C465200E384F07511FE71E85796434374C12A1C0CFDC5
BAmati
Cadena_X =
19DB99FF05ABD9FEE3C86BC42E0595B8B8D426C5B2242B7C41549A27C8A89
2FA
Valor hash =
1E32112797BEC3B9F3C4C3A93515BD6F1C1D1A1D98873C1816792730E3FC7
2BE
Nº_ntentos = 10

BLOQUE N.º 4

ID =
1E32112797BEC3B9F3C4C3A93515BD6F1C1D1A1D98873C1816792730E3FC7
2BEmati
Cadena_X =
9975233F7BB2C3C0D8A259868960B9B4DBE7FD35F03D937D6044F85002C30
54F
Valor hash =
14ED1BCA279F60747749E47B17CDED996492E172BB885BFE76D679B2C8063
1F9
Nº_ntentos = 1

BLOQUE N.º 5

ID =
14ED1BCA279F60747749E47B17CDED996492E172BB885BFE76D679B2C8063
1F9mati
Cadena_X =
C139BE8DD4A0FFC4F72939FDA9E9835300E8C91F678CF9B225C46FB21C8D02
5

Valor hash =
1725C908EE30CB62EC2BAB1DE1647B1B8639A1100DC69E9A6204D7839BB6C
F5C
Nº_ntentos = 0

BLOQUE N.º 6

ID =
1725C908EE30CB62EC2BAB1DE1647B1B8639A1100DC69E9A6204D7839BB6C
F5Cmati
Cadena_X =
CF1599CC438EFDAA96E1071E1B93C705C4DB138FF9E22485123F8CB87C557
DB3
Valor hash =
2AA6913109F871CDAB8B008F5A1553F73A171EB12AB0B64AC120D9F8B92BA
C42
Nº_ntentos = 0

BLOQUE N.º 7

ID =
2AA6913109F871CDAB8B008F5A1553F73A171EB12AB0B64AC120D9F8B92BA
C42mati
Cadena_X =
F2B9E40BA2160621497F891B9610610EAA315E1C2C8EFDD5C8A595AB8A6F23
0D
Valor hash =
1363463520CAA32EC91C120492B58D3A0BDE4365120E47D8C9C7727126AC0
D02
Nº_ntentos = 5

BLOQUE N.º 8

ID =
1363463520CAA32EC91C120492B58D3A0BDE4365120E47D8C9C7727126AC0
D02mati
Cadena_X =
F158968665D0320F8C5CF714AAA5AF50FC46A9E7CB6DB9631CB02F9C636
CE6
Valor hash =
1F7641BEE1C0B312A4008C688B8962C04C3A4B232CF6276B4FB57F4C067CD
D31
Nº_ntentos = 3

BLOQUE N.º 9

ID =
1F7641BEE1C0B312A4008C688B8962C04C3A4B232CF6276B4FB57F4C067CD
D31mati
Cadena_X =
997549A5BF1E8DEF058C892CF4DB0155E9EED34A2C5784B694108549D5022
A5C
Valor hash =
1F5A3233ADA225EC1BF892FE25C99FFE1F10AE539DA154AA76D843B57BF409
2E
Nº_ntentos = 0

BLOQUE N.º 10

ID =

1F5A3233ADA225EC1BF892FE25C99FFE1F10AE539DA154AA76D843B57BF4092E
mati

Cadena_X =

AA43EF005134A38AE30D806F5E7BB8EC1A96CD3996907666CB4672E1D38847C8

Valor hash =

185DACA9BD74082C4AAACE4C8C51CA581E222935DFAED47ED46BD25CAD6E578AF

Nº_ntentos = 1

```
mati@mati-Lenovo-Z50-70:~/Dropbox/4.1 informatica/SPSI/Practicas/Practica5$ ./script.sh
ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = EA0B9786533C40D41DDC7B76A2C8ECE53
5706504F08407CB532E3A827D4B8149 Valor hash = 2B3F5229804E55F539F320BDCD343E3AAE04D26F492E5EF33C167600EC31D5E5 Nº_ntent
os = 2 ID = 2B3F5229804E55F539F320BDCD343E3AAE04D26F492E5EF33C167600EC31D5E5mati Cadena_X = 9FC3834D2FD8664EA3FE23034F
D6E6AD71047D7F13DE150342843067EBB178BE Valor hash = 1FD76B7AF98D9E887C465200E384F07511FE71E85796434374C12A1C0CFDC5BA Nº
ntentos = 0 ID = 1FD76B7AF98D9E887C465200E384F07511FE71E85796434374C12A1C0CFDC5BAmati Cadena_X = 19DB99FF05ABD9FEE3C
86BC42E05958B8BD426C5B2242B7C41549A27C8A892FA Valor hash = 1E32112797BEC3B9F3C4C3A93515BD6F1C1D1A1D98873C1816792730E3F
C72BE Nº_ntentos = 10 ID = 1E32112797BEC3B9F3C4C3A93515BD6F1C1D1A1D98873C1816792730E3FC72BEmati Cadena_X = 9975233F7BB
2C3C0D8A259868960B984DBE7FD35F03D937D6044F85002C3054F Valor hash = 14ED1BCA279F60747749E47B17CDED996492E172BB885BFE76D
679B2C80631F9 Nº_ntentos = 1 ID = 14ED1BCA279F60747749E47B17CDED996492E172BB885BFE76D679B2C80631F9mati Cadena_X = C139
BE8DD4A0FFC4F72939FDA9E9835300E8C91F678CF9B225C46FB21C8D025 Valor hash = 1725C908EE30CB62EC2BAB1DE1647B1B8639A1100DC69
E9A6204D7839BB6CF5C Nº_ntentos = 0 ID = 1725C908EE30CB62EC2BAB1DE1647B1B8639A1100DC69E9A6204D7839BB6CF5Cmati Cadena_X
= CF1599CC438EFDAA96E1071E1B93C705C4DB138FF9E22485123F8CB87C557DB3 Valor hash = 2AA6913109F871CDAB8B008F5A1553F73A171E
B12AB0B64AC120D9F8B92BAC42 Nº_ntentos = 0 ID = 2AA6913109F871CDAB8B008F5A1553F73A171EB12AB0B64AC120D9F8B92BAC42mati Ca
dena_X = F2B9E40BA2160621497F891B9610610EAA315E1C2C8EFD05C8A595AB8A6F230D Valor hash = 1363463520CAA32EC91C120492B58D3
A0BDE4365120E47D8C9C7727126AC0D02 Nº_ntentos = 5 ID = 1363463520CAA32EC91C120492B58D3A0BDE4365120E47D8C9C7727126AC0D02
mati Cadena_X = F158968665D0320F8C5CF714AAA5AF50FC46A9E7CB6D8B9631CB02F9C636CE6 Valor hash = 1F7641BEE1C0B312A4008C688B8962C04C3A4B232CF6276B4FB57F4C0
8B8962C04C3A4B232CF6276B4FB57F4C067CDD31 Nº_ntentos = 3 ID = 1F7641BEE1C0B312A4008C688B8962C04C3A4B232CF6276B4FB57F4C0
67CDD31mati Cadena_X = 997549A5BF1E8DEF058C892CF4DB0155E9EED34A2C5784B694108549D5022A5C Valor hash = 1F5A3233ADA225EC1
BF892FE25C99FFE1F10AE539DA154AA76D843B57BF4092E Nº_ntentos = 0 ID = 1F5A3233ADA225EC1BF892FE25C99FFE1F10AE539DA154AA76
D843B57BF4092Emati Cadena_X = AA43EF005134A38AE30D806F5E7BB8EC1A96CD3996907666CB4672E1D38847C8 Valor hash = 185DACA9BD
74082C4AAACE4C8C51CA581E222935DFAED47ED46BD25CAD6E578AF Nº_ntentos = 1
```

4. Repetid el apartado 3 incrementando el valor de b iterativamente de uno en uno. Parad cuando vuestro ordenador tarde varios minutos en completar la tarea.

El valor inicial de b será 1. En cada iteración b valdrá $b=b+1$, después de varias iteraciones, b llega como mucho a 12.

```
function ejercuatro {
    CADENA=$(echo -n | sha256sum | awk '{print $1}') # la
    primera cadena la generamos.
    cuenta=0
    B=3
    until [[ $cuenta -gt 9 ]];
    do
        TEXTO="mati"
        RESULTADO=$(ejeruno $TEXTO $B $CADENA)
        echo $RESULTADO
        echo "b = "$B
        CADENA=$(echo -n "$RESULTADO" | awk '{print
$4}')
```

let cuenta=\$cuenta+1

```
        let B=$B+1
    done
}
echo $(ejercuatro)
```

mati@mati-Lenovo-Z50-70:\$./script.sh

BLOQUE N.º 1

```
ID =
e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855m
ati
Cadena_X =
476B886A8A9DE4557EA962D73D7EDF1B17022B206DA5FF3A0C8A7449EEB4C
7B3
Valor hash =
73A33EF119BFA9A67B9F57CDAF23F5E76583BD474A879740C860CA79F59BF9
2A
Nº_intentos = 0
b = 1
```

BLOQUE N.º 2

```
ID =
73A33EF119BFA9A67B9F57CDAF23F5E76583BD474A879740C860CA79F59BF9
2Amati
Cadena_X =
BA55D12C54A2AD1E6B41782D6FFEE87E930EE3AABBB3B7CD2A4C7B996EF9C
6EC
Valor hash =
27AB44F370B2191B85B63F825A51431F03C695A0E10FB21AA1B514C29C56ED
A3
Nº_intentos = 6
b = 2
```

BLOQUE N.º 3

```
ID =
27AB44F370B2191B85B63F825A51431F03C695A0E10FB21AA1B514C29C56ED
A3mati
Cadena_X =
EED7389942661EF65ADFA24FEB6E9300BE3B0777CC5059A2528CB800AA007C
09
Valor hash =
1C0E7628519B693CD4288379EDB6085FDDB1CEC783647FBC10180DD5E607D
C79
Nº_intentos = 2
b = 3
```

BLOQUE N.º 4

```
ID =
1C0E7628519B693CD4288379EDB6085FDDB1CEC783647FBC10180DD5E607D
C79mati
```

Cadena_X =
B4D9CC913E44425A166E2A9035CBD9DA4731A3A1CE48A91E30835A93CFD16
97A
Valor hash =
00557C085A0C438E1DDD9B26353F80076996DFAC1793809D0D40658AB7BEC
88A N°_ntentos = 99
b = 4

BLOQUE N.º 5

ID =
00557C085A0C438E1DDD9B26353F80076996DFAC1793809D0D40658AB7BEC
88Amati
Cadena_X =
57B54D40CE11BE23E22FE7E58E410CACFC3E6448F82515F65639ABDFB61570
A3
Valor hash =
0598233C50F2762A490ABBC1709599107278D19A017774AC41A20C801B33E
DD3
N°_ntentos = 5
b = 5

BLOQUE N.º 6

ID =
0598233C50F2762A490ABBC1709599107278D19A017774AC41A20C801B33E
DD3mati
Cadena_X =
DB3190159FD64BE0F5947D6250D15EB4B91F6C481763410E29DCB1A71568F
1B2
Valor hash =
01A0679A95F269ACEAAD9ECD0522DD093ED41D9D3A7CAE32E72D9DA37774
7086
N°_ntentos = 50
b = 6

BLOQUE N.º 7

ID =
01A0679A95F269ACEAAD9ECD0522DD093ED41D9D3A7CAE32E72D9DA37774
7086mati
Cadena_X =
E78C11FAA6E158B5B8A6AE42D5EE9A420881215576DBE81C4B5D6B48A22E5
E7A
Valor hash =
00FC7A530CB785D281EAF538184010871102AEC81A0AB0C6E5F164787CF106
19
N°_ntentos = 71
b = 7

BLOQUE N.º 8

ID =
00FC7A530CB785D281EAF538184010871102AEC81A0AB0C6E5F164787CF106
19mati

Cadena_X =
1789601DA52F282AEC42EC62A33676954E619A2B5B978EDE063A753A1C4DEC24
Valor hash =
00E8E5EBDD02E23E719BCC5FF1BBCD96AAA21394F06157595D13BF664415925E
Nº_ntentos = 154
b = 8

BLOQUE N.º 9

ID =
00E8E5EBDD02E23E719BCC5FF1BBCD96AAA21394F06157595D13BF664415925E
mat
Cadena_X =
20B09C3AF3813026A7A9F45EB3AFBBEC0C3360FC8DC50EF9C217DD2150E1611B
Valor hash =
004BBEC32F88843F28A0CDDF639BB4B98E19B4267477BF8A087D36EF78D912AF
Nº_ntentos = 299
b = 9

BLOQUE N.º 10

ID =
004BBEC32F88843F28A0CDDF639BB4B98E19B4267477BF8A087D36EF78D912AF
mat
Cadena_X =
AF33929DEBDE6491994826665B762BE6785BAD34791CF1543E307C1F8BDD2933
Valor hash =
002D84DFB39A09C586636E476C29E5751A860EC9F7383378A5F1FA55730E0AF3
Nº_ntentos = 372
b = 10

BLOQUE N.º 11

ID =
002D84DFB39A09C586636E476C29E5751A860EC9F7383378A5F1FA55730E0AF3
mat
Cadena_X =
1C755F1AE465816C318BA9AD13D56A0A18B4C3335A8E3282CA90DDE7DC108B33
Valor hash =
001C47617A835DF6B46FA9D87DE8AE905B14A44E7C01FBB21FC4BDE3C4749D1B
Nº_ntentos = 2180
b = 11

```

mati@mati-Lenovo-Z50-70:~/Dropbox/4.1 informatica/SPSI/Practicas/Practica5$ ./script.sh
ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = 476B886A8A9DE455
7EA962D73D7EDF1B17022B206DA5FF3A0C8A7449EEB4C7B3 Valor hash = 73A33EF119BFA9A67B9F57CDAF23F5E76583BD4
74A879740C860CA79F59BF92A N°_intentos = 0 b = 1 ID = 73A33EF119BFA9A67B9F57CDAF23F5E76583BD474A879740C
860CA79F59BF92Amati Cadena_X = BA55D12C54A2AD1E6B41782D6FFEE87E930EE3AABBB3B7CD2A4C7B996EF9C6EC Valor
hash = 27AB44F370B2191B85B63F825A51431F03C695A0E10FB21AA1B514C29C56EDA3 N°_intentos = 6 b = 2 ID = 27
AB44F370B2191B85B63F825A51431F03C695A0E10FB21AA1B514C29C56EDA3mati Cadena_X = EED7389942661EF65ADFA24
FEB6E9300BE3B0777CC5059A2528CB800AA007C09 Valor hash = 1C0E7628519B693CD4288379EDB6085FDDDB1CEC783647F
BC10180DD5E607DC79 N°_intentos = 2 b = 3 ID = 1C0E7628519B693CD4288379EDB6085FDDDB1CEC783647FBC10180DD5
E607DC79mati Cadena_X = B4D9CC913E44425A166E2A9035CBD9DA4731A3A1CE48A91E30835A93CFD1697A Valor hash =
00557C085A0C438E1DD9B26353F80076996DFAC1793809D0D40658AB7BEC88A N°_intentos = 99 b = 4 ID = 00557C08
5A0C438E1DD9B26353F80076996DFAC1793809D0D40658AB7BEC88Amati Cadena_X = 57B54D40CE11BE23E22FE7E58E410
CACFC3E6448F82515F65639ABDFB61570A3 Valor hash = 0598233C50F2762A490ABBC1709599107278D19A017774AC41A2
0C801B33EDD3 N°_intentos = 5 b = 5 ID = 0598233C50F2762A490ABBC1709599107278D19A017774AC41A20C801B33ED
D3mati Cadena_X = DB3190159FD64BE0F5947D6250D15EB4B91F6C481763410E29DCB1A71568F1B2 Valor hash = 01A06
79A95F269ACEAAD9ECD0522DD093ED41D9D3A7CAE32E72D9DA377747086 N°_intentos = 50 b = 6 ID = 01A0679A95F269
ACEAAD9ECD0522DD093ED41D9D3A7CAE32E72D9DA377747086mati Cadena_X = E78C11FAA6E158B5B8A6AE42D5EE9A42088
1215576DBE81C4B5D6B48A22E5E7A Valor hash = 00FC7A530CB785D281EAF538184010871102AEC81A0AB0C6E5F164787C
F10619 N°_intentos = 71 b = 7 ID = 00FC7A530CB785D281EAF538184010871102AEC81A0AB0C6E5F164787CF10619mat
i Cadena_X = 1789601DA52F282AEC42EC62A33676954E619A2B5B978EDE063A753A1C4DEC24 Valor hash = 00E8E5EBDD
02E23E719BCC5FF1BBBCD96AAA21394F06157595D13BF664415925E N°_intentos = 154 b = 8 ID = 00E8E5EBDD02E23E71
9BCC5FF1BBBCD96AAA21394F06157595D13BF664415925Emati Cadena_X = 20B09C3AF3813026A7A9F45EB3AFBBEC0C3360F
C8DC50EF9C217DD2150E1611B Valor hash = 004BBEC32F88843F28A0CDDF639BB4B98E19B4267477BF8A087D36EF78D912
AF N°_intentos = 299 b = 9 ID = 004BBEC32F88843F28A0CDDF639BB4B98E19B4267477BF8A087D36EF78D912AFmati C
adena_X = AF33929DEBDE6491994826665B7628E6785BAD34791CF1543E307C1F8BD02933 Valor hash = 002D84DFB39A0
9C586636E476C29E5751A860EC9F7383378A5F1FA55730E0AF3 N°_intentos = 372 b = 10 ID = 002D84DFB39A09C58663
6E476C29E5751A860EC9F7383378A5F1FA55730E0AF3mati Cadena_X = 1C755F1AE465816C318BA9AD13D56A0A18B4C3335
A8E3282CA90DDE7DC108B33 Valor hash = 001C47617A835DF6B46FA9D87DE8AE905B14A44E7C01FBB21FC4BDE3C4749D1B
N°_intentos = 2180 b = 11

```

El numero de intentos se dispara en las ultimas iteraciones, ademas, el resultado para el mismo valor de b está dentro de un rango pero puede alterarse bastante.

Sabiendo esto cambio el código para poder hacer la tabla del ejercicio siguiente:

```

function ejercuatro {
    CADENA=$(echo -n | sha256sum | awk '{print $1}') # la
    primera cadena la generamos.
    cuenta=0
    until [[ $cuenta -gt 9 ]];
    do
        TEXTO="mati"
        RESULTADO=$(ejercicio $TEXTO $B $CADENA)
        echo $RESULTADO
        CADENA=$(echo -n "$RESULTADO" | awk '{print
$4}'))
        let cuenta=cuenta+1
    done
}

B=1
until [[ $cuenta -gt 2 ]];
do
    cuatro=$(ejercuatro $B)
    echo $cuatro

```



```
echo "b = "$B
let B=$B+1
done
```

Salidas:

```
mati@mati-Lenovo-Z50-70:~/Dropbox/4.1 informatica/SPSI/Practicas/Practica5$ ./script.sh
ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = CBF28AD6FAC98976
CAC471C56B331487AE4043D41FFD53145B3701A91DED7586 Valor hash = 174B3A58A75859CC6ED78D52FEFC66189752A15
93F9A74486F393C3E89CCD336 N°_ntentos = 0 ID = 174B3A58A75859CC6ED78D52FEFC66189752A1593F9A74486F393C3
E89CCD336mati Cadena_X = 9A3A9B095C4C8A31765DCF8D2E3462121166B4877BA95D9C29E125B3FE20C27C Valor hash
= 5BC5FDD0DBE469696ADF3AF52932E0DC5E7B0D59D9508E4607588A53A7EE224E N°_ntentos = 1 ID = 5BC5FDD0DBE469
696ADF3AF52932E0DC5E7B0D59D9508E4607588A53A7EE224Emati Cadena_X = BABA0CECA502CD2014C79184956E25CAA7D
A08F0894410AE0DA843468EBF4F86 Valor hash = 4243E72C4BD5B7A1627BA3DD24F2423E5965E4E08D0CD7069E489CEB49
F6B659 N°_ntentos = 0 ID = 4243E72C4BD5B7A1627BA3DD24F2423E5965E4E08D0CD7069E489CEB49F6B659mati Caden
a_X = 65A673D38EE8CEEE89A5035FD6D2A89AFF948C51DF121B4E6742747386290146 Valor hash = 19978A71E31A46D9C
FB7DBB494AD166CE4DF710A5851D5E14B474B47472F3BB4 N°_ntentos = 0 ID = 19978A71E31A46D9CFB7DBB494AD166CE
4DF710A5851D5E14B474B47472F3BB4mati Cadena_X = 5E91EBDB0A9BEDBBE14E01DD2423CD704B4C6A8DC55D6187B1EDCF
78138C6F2 Valor hash = 15C529C54AE2F49BBDD107113B65F400D463592191EF830649BCC3AB47DAD01DD N°_ntentos =
3 ID = 15C529C54AE2F49BBDD107113B65F400D463592191EF830649BCC3AB47DAD01DDmati Cadena_X = F7CEA56EBE6B83
598EC24A4CE73EDAD162EF58A8E0DA9A088290B81084B2627F Valor hash = 46C5597C1C560C429B9F0E25B9CAEC0016EEC
9B482CE5E14DD87C43BA3F0F0EB N°_ntentos = 3 ID = 46C5597C1C560C429B9F0E25B9CAEC0016EEC9B482CE5E14DD87C
43BA3F0F0EBmati Cadena_X = 3FED5D278F9A1B91B522BFE036D4EB30949114078A160F5B408E607738A5E120 Valor has
h = 4A141370AA379225A5AF406E576657EFC6FCCF0887D697E3213280FF35DF8485 N°_ntentos = 0 ID = 4A141370AA37
9225A5AF406E576657EFC6FCCF0887D697E3213280FF35DF8485mati Cadena_X = 58EF79DD868164779A2E4F92791B81FDC
AA1EBDB4A825B977676A24EB228689C Valor hash = 65B8BB3B409C0ECDBF1C75CDE8965B1EC5EF543B4A767E25B6AD357C
03595F43 N°_ntentos = 0 ID = 65B8BB3B409C0ECDBF1C75CDE8965B1EC5EF543B4A767E25B6AD357C03595F43mati Cad
ena_X = 7E10EA0E61B3646ACADF50D7AE6E5FB084110EF7BDA4558146D42BD3F5FB3C3F Valor hash = 116D4F64978CAE8
145DE95507CD64A6E10DF7880FF8DBFA22BE8F58A8A91D6AB N°_ntentos = 1 ID = 116D4F64978CAE8145DE95507CD64A6
E10DF7880FF8DBFA22BE8F58A8A91D6ABmati Cadena_X = 1A3B9039198F50BF53516CAC76DAD7CF44FB60B485722195185A
779DCC5CAF71 Valor hash = 1ED8A3C91923AB33ED326C309B383261B32AC39BFE1002E7D4C4170177DBE3AD N°_ntentos
= 1
b = 1
```

```
ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = 1992D9815805689C
92B1A71152020B3580B141CCD2E78F0F1B1D66A85875C452 Valor hash = 2523B208D7CCBE8B2AB5A336FC8BD25E67C4A2D
B4262F147BD0000E0DD0AC035 N°_ntentos = 1 ID = 2523B208D7CCBE8B2AB5A336FC8BD25E67C4A2DB4262F147BD0000E
0DD0AC035mati Cadena_X = 8F37856FAB4718E5111989E2A8CE529E1ACD22F684819E2A5363A94FFFEAFE20 Valor hash
= 0A4926FF2269DCCCE6D3833BF15E71CEBC296C420FA3A3ECB9313ADD1C1881D07 N°_ntentos = 5 ID = 0A4926FF2269DC
CE6D3833BF15E71CEBC296C420FA3A3ECB9313ADD1C1881D07mati Cadena_X = 52AD8F77ADD76BBF5399BC1CFE15E7B80DC
AD481A4864714048AD56049EACEC5 Valor hash = 0E7C9188BC9953E59956E8711934A6D49C5D44693FE37B0BB62DCBB37A
C94E5D N°_ntentos = 7 ID = 0E7C9188BC9953E59956E8711934A6D49C5D44693FE37B0BB62DCBB37AC94E5Dmati Caden
a_X = 9AEF36B28200C774A5E1DC63626A9120504E5DBCFDDEE4FFAABE708D525C4513 Valor hash = 15077E84416E9EE58
F4CC2F724B839440BE7307B4338E8965FE916DF859D07D1 N°_ntentos = 4 ID = 15077E84416E9EE58F4CC2F724B839440
BE7307B4338E8965FE916DF859D07D1mati Cadena_X = 1473FFAA95CD3E2FA427C991467D9C5F3B0EACA44A9EE19AD566C0
F85FBFD48D Valor hash = 331C3240762BC1D98D38FD2C2430E1F62371870D42DE99FD1F173FD0DEBBD9B3 N°_ntentos =
1 ID = 331C3240762BC1D98D38FD2C2430E1F62371870D42DE99FD1F173FD0DEBBD9B3mati Cadena_X = CC023F7AA2D3A
27F2EB58FB35C26A56F575CF40EA15E19590F692EC61874A77E Valor hash = 250E662EDC825FF7142999457A1B5A9408CE
3A1074A86BB2D65B54B03CAB1D11 N°_ntentos = 0 ID = 250E662EDC825FF7142999457A1B5A9408CE3A1074A86BB2D65B
54B03CAB1D11mati Cadena_X = 221CDBD067F14F4D379E21BBB4078CCD8DE80F5A6DDDDC199712778F8933384C Valor ha
sh = 1968E85F1EF205361A8E0B0F97DCEE6A8F4EFDC2A9D0376FCFEB3D677E82673D N°_ntentos = 0 ID = 1968E85F1EF
205361A8E0B0F97DCEE6A8F4EFDC2A9D0376FCFEB3D677E82673Dmati Cadena_X = E840CB15DC1D2A727D0ADA638205AE5C
99534506034B5E5DD8B3C1A286CB4FB5 Valor hash = 3544A37886FB6E8E7EE30471BE815BA0D88BA3F1EA8A41580B61365
986B0ED88 N°_ntentos = 0 ID = 3544A37886FB6E8E7EE30471BE815BA0D88BA3F1EA8A41580B61365986B0ED88mati Ca
dena_X = C79C7B5410D1A04ED8D6C522059A5BB937486C8DB80E9B1B0243932180BBC4F1 Valor hash = 10D613622363DE
1B2CE15D316CEC6698212580F37BCADB997C5EC26B4036A4C9 N°_ntentos = 0 ID = 10D613622363DE1B2CE15D316CEC66
98212580F37BCADB997C5EC26B4036A4C9mati Cadena_X = 402CB844BB5B57FA0690A0A3687EFED0EBC390022C188256A41
AD495C0544E63 Valor hash = 2843FB12B07E7C5F1AD71AE54E46444EA5663EBD976FFF683CD01156F097A1BE N°_ntento
s = 11
b = 2
```



```
ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = CF211ABDA2D98751E53B3D42A558DC85E551AD969FD43FE88005EFAEA2B83669 Valor hash = 021B25A6CD8E9D600FC62A6075A33478916D0095AD1F18E45C654524A7E157245 N°_ntentos = 2 ID = 021B25A6CD8E9D600FC62A6075A33478916D0095AD1F18E45C654524A7E157245mati Cadena_X = BDD880C5941C7B56A0022BDE0BCB42AF19CA4D4BD99832DB5E40A76AD8E456F5 Valor hash = 086BDB40F7D1B6CEAF98D7527AC499950B01FCE4BBE7AE9C7F236E47CF52757A N°_ntentos = 71 ID = 086BDB40F7D1B6CEAF98D7527AC499950B01FCE4BBE7AE9C7F236E47CF52757Amati Cadena_X = E2CD104FB3BF65EE58A7A46B0E5F729909207EE6D7FB9942D18F386D60784FDD Valor hash = 017907D2D1D07F5D75A79AFFADFA9B16509F2DB9ADCC3CCA9E7EBFE697D5CAC5 N°_ntentos = 5 ID = 017907D2D1D07F5D75A79AFFADFA9B16509F2DB9ADCC3CCA9E7EBFE697D5CAC5mati Cadena_X = 2012DB51342023E112BCED7144F97EB1FD0D087C722FA655F6C80E41B4C08449 Valor hash = 1AA7A3D78286013E223679B323771F6C4F7EE6BBEF609E1DC04A6FCF7DE4D996 N°_ntentos = 9 ID = 1AA7A3D78286013E223679B323771F6C4F7EE6BBEF609E1DC04A6FCF7DE4D996mati Cadena_X = B71943D41D42258ED987C7835E306C7530F8874972F90FF35AD2CE9D499D2A19 Valor hash = 02A32E571CAC078F4BEF96F9A2E594ED4CB024B17E492AA458EB39C034F46EC8 N°_ntentos = 18 ID = 02A32E571CAC078F4BEF96F9A2E594ED4CB024B17E492AA458EB39C034F46EC8mati Cadena_X = 56E711EF2E25B66CE0B774E651BB6E455FDF694AFA03CEBBB5754FF495D809A Valor hash = 006AB6ECD6F8E9FE14CFED979FAA87FE7F4B2D5DC3CEE911364D52EAE8B63175 N°_ntentos = 30 ID = 006AB6ECD6F8E9FE14CFED979FAA87FE7F4B2D5DC3CEE911364D52EAE8B63175mati Cadena_X = 245593C60AA55FDB46B0BB4259B1145B4481D45E03CBC5BBA6896AD3ACFE2776 Valor hash = 14FD84FC47919395CC582F7C789E28DF0678B7EFC69C6A643094045092FAA923 N°_ntentos = 27 ID = 14FD84FC47919395CC582F7C789E28DF0678B7EFC69C6A643094045092FAA923mati Cadena_X = 4A37215EB8E3F732BAEA4D10953B3F6A691EFA1DD91458EE54CC9C8668C38FEC Valor hash = 0CFE4A976DAC0EEC4CD7E06BEF8A2C5BC5920889AF8BDE9F3448ED20B0EA5263 N°_ntentos = 6 ID = 0CFE4A976DAC0EEC4CD7E06BEF8A2C5BC5920889AF8BDE9F3448ED20B0EA5263mati Cadena_X = 384E2ABC19EAA6FCB4FBF4FDE94DD7C1E767F1C96AD8FB24948D9EB10365C784 Valor hash = 11ABD8B19C30AA590C2BD3152A65D5D825BE6163FD0B0A8950C7421B395E3DC N°_ntentos = 11 ID = 11ABD8B19C30AA590C2BD3152A65D5D825BE6163FD0B0A8950C7421B395E3DCmati Cadena_X = F521C4F49FD437A6AADB04618EB08E7125CE2839CE69FFECB3793BB7854965CE Valor hash = 12609C3F5F93C2B0E7FB350C6ED789C6427AAA5119D7A5F0146913B0F24F7817 N°_ntentos = 1  
b = 3
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ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = 20622E12539CFFC09E12A8A07733D56C0D4D05E3257EB995A8AAEE455C04C4C7 Valor hash = 0730BB3907C0B7E7B0CBB97AB925261166A44EFC1896DE8717E5839EB6C7710C N°_ntentos = 5 ID = 0730BB3907C0B7E7B0CBB97AB925261166A44EFC1896DE8717E5839EB6C7710Cmati Cadena_X = 22CF63A8EDCFEA0DA1762C532B5D7A648A895F8F874F10FD224C2FAF759CB0C4 Valor hash = 0E2713B5D4EF63C5E8D5B5504F17427E0A70A64B5AB45C2F6F45C17CA862D234 N°_ntentos = 16 ID = 0E2713B5D4EF63C5E8D5B5504F17427E0A70A64B5AB45C2F6F45C17CA862D234mati Cadena_X = ED8A1726FF7D4638CCBCD135B0CF58CEF817BD5449BCBA3FF635830D6795AE2 Valor hash = 0BD40ED1EA45015D5380904D4B7136EBE4682A76AF3FA0D7F973B35DD06C1211 N°_ntentos = 17 ID = 0BD40ED1EA45015D5380904D4B7136EBE4682A76AF3FA0D7F973B35DD06C1211mati Cadena_X = D040A1F5814BB21CD49D27226EE5156B37EC2F1D612677F90F68331707B26149 Valor hash = 0D76D8E58DC615B83BD4AD59C9DD851BB3E864C3F974D2054F7A9616F85EC0AF N°_ntentos = 6 ID = 0D76D8E58DC615B83BD4AD59C9DD851BB3E864C3F974D2054F7A9616F85EC0AFmati Cadena_X = 4314EE2560794409DCBE3C268B23B77763EB017FB8450974D676E06FC63E3DB4 Valor hash = 0434D32F52B03EC8745D9C9EE04D19167D274A4780837355E786C37454198DD6 N°_ntentos = 2 ID = 0434D32F52B03EC8745D9C9EE04D19167D274A4780837355E786C37454198DD6mati Cadena_X = 2668DEEF51D8FA6C8AC1C204509CB68A985632F2533998D48F2EA2EE85CEA1D5 Valor hash = 0BEB0C33216F1121AB64271961E1E3456C7471805B7058304A072BECE2C4DC30 N°_ntentos = 9 ID = 0BEB0C33216F1121AB64271961E1E3456C7471805B7058304A072BECE2C4DC30mati Cadena_X = 9CA682F5D598E2450CCB28EAF91989FE3257D08773FEF496664968B99DAC0E3B Valor hash = 0D005F2FBB9CD9D7F5118B8C3885A3EB762D0EC613EF383529EBFBD9C9898DC20 N°_ntentos = 34 ID = 0D005F2FBB9CD9D7F5118B8C3885A3EB762D0EC613EF383529EBFBD9C9898DC20mati Cadena_X = E6E0B80DBA84ACC1FAAD6B613CAC3567F854FDFDF3F7AEB114A423537389F631 Valor hash = 03E21E532E5489CD5E9C9512E8A13FD5C3732108DB7FDE369D529E295627D7E8 N°_ntentos = 4 ID = 03E21E532E5489CD5E9C9512E8A13FD5C3732108DB7FDE369D529E295627D7E8mati Cadena_X = 269032092723FE8ED6404332E0F2E59AF78147DB0BD7E3AD76EB7B92708BCD19 Valor hash = 00A4FEECED51DF37AE834F029E89975C2F1D68D9E4B9FB3E2E7171F591E96C0D N°_ntentos = 10 ID = 00A4FEECED51DF37AE834F029E89975C2F1D68D9E4B9FB3E2E7171F591E96C0Dmati Cadena_X = A4101347315B9CA6F6ECCC57E06C071230C90902202CE7751C2EF5B1881E8BC4 Valor hash = 022BD014234E24CF81F1E02A9C669795256D79D778DF11FCEA554CCD936A4505 N°_ntentos = 1  
b = 4
```

ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = BC362823521FA8FE
CFFE4B2A2B661DCC8EE9B6F30207CED172C811565172991 Valor hash = 03EA984BDECA6734A0A525DCCE34014883A8C1D2
E9F1203BC6301C13E709C69F N°_ntentos = 32 ID = 03EA984BDECA6734A0A525DCCE34014883A8C1D2E9F1203BC6301C1
3E709C69Fmati Cadena_X = F5D65B1D00E5D35642F1B13F7723B860CE30FFEF15D02C05A9A665C65A27B8ED Valor hash
= 0049D7BE52B161C48DBA04DC4F75D275A7AA5CA07B0EC791FCA12D9AF7F8BD13 N°_ntentos = 107 ID = 0049D7BE52B1
61C48DBA04DC4F75D275A7AA5CA07B0EC791FCA12D9AF7F8BD13mati Cadena_X = 9C5AFB9EFB7B4111606C782FC09DC6ECA
1B59C686E14A464836C800F65479F31 Valor hash = 018EEE458991892E783A720DFAFF989D5966F0FD3C31DB91DD20B30E
0C363ADC N°_ntentos = 43 ID = 018EEE458991892E783A720DFAFF989D5966F0FD3C31DB91DD20B30E0C363ADCmati Ca
dena_X = 4A16DF96FCF3CEA146E0888451D1DE02F8948B72B6CCA5DFF40A21245568FCF1 Valor hash = 07B6DF37968DDC
E137B6D6CA6DB35432FCA22A8E08B8860A56D61BB60096BD9A N°_ntentos = 53 ID = 07B6DF37968DDCE137B6D6CA6DB35
432FCA22A8E08B8860A56D61BB60096BD9Amati Cadena_X = 4306883309945263BAA444766D3940CBAB0D3A4E49C20401E3
81B34F1CF1A1CD Valor hash = 06F88B9DB5C4B0105CC077EB3E2E41C7204089A3F377CB211A1A76591D2917E0 N°_ntent
os = 4 ID = 06F88B9DB5C4B0105CC077EB3E2E41C7204089A3F377CB211A1A76591D2917E0mati Cadena_X = 28572DFFC
4F895C1C6461B05B110A745A15AFF282BDB60CDF15754F8692EDB73 Valor hash = 01F47FA38D1AFA7223F0E9E1AFD18961
4895C08547A19FD017AD6D6F7E67E020 N°_ntentos = 2 ID = 01F47FA38D1AFA7223F0E9E1AFD189614895C08547A19FD0
17AD6D6F7E67E020mati Cadena_X = 28544B2D355FD0FDE05861151C0AC5AE9A05649FF6871E5B9CC6258855C54BD3A Valo
r hash = 0262561444C039B7F8E8DF9F2DEDEBD73985FA33AF6A984012C00E5A71E6BFC0 N°_ntentos = 50 ID = 026256
1444C039B7F8E8DF9F2DEDEBD73985FA33AF6A984012C00E5A71E6BFC0mati Cadena_X = 340AA7FB01A951CCA2C7A4A98E8
069E9090A1156F5766F989E7D4920383FFF0A Valor hash = 057385712938B3BDA737034D221C742CC3E62FFC80F4BC5868
21509BC7667E94 N°_ntentos = 1 ID = 057385712938B3BDA737034D221C742CC3E62FFC80F4BC586821509BC7667E94ma
ti Cadena_X = 70AF0BF6A024BB8C06942DC2EF2B0A96A821A6AB888C0C974D30E2C0798BC18A Valor hash = 045FC0483
A7AD900F7A034E407385984B62CB8D35B64878508AD0661CD0710A7 N°_ntentos = 61 ID = 045FC0483A7AD900F7A034E4
07385984B62CB8D35B64878508AD0661CD0710A7mati Cadena_X = 49880F1BC8CC77DA937FB681EB697FC3475B3DCDAFF5B
7BA4EB6D5D1FA8803F Valor hash = 063387891EF973F35FD3464D1EB4579655EF1564F629C8282A79B8310D93A0EA N°_n
tentos = 36
b = 5

ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = 88CF9C747AFA1C29
CB0BC3D44AB8AB8B199281F834DE72B4CD2D031D0D74E389 Valor hash = 00E06709DCE8D3C417D5C10A2CCB4335A4585CF
738C82C738F117D67E73B5A6B N°_ntentos = 125 ID = 00E06709DCE8D3C417D5C10A2CCB4335A4585CF738C82C738F117
D67E73B5A6Bmati Cadena_X = ED1EFAB02C3E805126EA932041AB5725E61425A4E5CED6381467B43BFDEFDA3 Valor has
h = 001968DED7BA53DE3AF8A0C89CE98B2A1F0FB5C339F43D99B9B18E3E4377C3B6 N°_ntentos = 34 ID = 001968DED7B
A53DE3AF8A0C89CE98B2A1F0FB5C339F43D99B9B18E3E4377C3B6mati Cadena_X = 2F6402EE432FB82C78E81C9D8847DA81
3FFA8476750518642F52797C1698DE1E Valor hash = 0157F635B8255AC6993CBAD8ED8DA69AF19470CE4AFE6CB2EEC2CC9
4B195B09E N°_ntentos = 273 ID = 0157F635B8255AC6993CBAD8ED8DA69AF19470CE4AFE6CB2EEC2CC94B195B09Emati
Cadena_X = 5C920B018844C339D2194E367C25ED4EFB07A3DEEDE201093857711A2731B853 Valor hash = 003AB2D12836
7B68F0C5EF48C1E8637F84FFE442D6DB8B1198E6E96B812130BA N°_ntentos = 99 ID = 003AB2D128367B68F0C5EF48C1E
8637F84FFE442D6DB8B1198E6E96B812130BAmati Cadena_X = 4C25E3152351A46712F7A34643A46CD3396E3432FA14A632
DC598B8645EA6455 Valor hash = 0112209A743157148ABED503E48AD35BB20176E6134527BE7005669E5C1AD69F N°_nte
ntos = 30 ID = 0112209A743157148ABED503E48AD35BB20176E6134527BE7005669E5C1AD69Fmati Cadena_X = D2854F
70CEC0E51C4DD8A00A79F37453C4241A30F959FCBFE7012EE9B7E7AC Valor hash = 02FECF19A168E0AC88AF678AC6F2A
84F58A9C4DBE7F1EBF17E9EB4AF71A8C55A N°_ntentos = 10 ID = 02FECF19A168E0AC88AF678AC6F2A84F58A9C4DBE7F1
EBF17E9EB4AF71A8C55Amati Cadena_X = 62F122695ACD1969265FB5FB471689A9D933F642A5EE2AC9DBD85067F472A009
Valor hash = 01B13815F9D0F5AAD3FD35DAF031462AA968D3FF312EB663AEF458DB7D26F2A7 N°_ntentos = 28 ID = 01
B13815F9D0F5AAD3FD35DAF031462AA968D3FF312EB663AEF458DB7D26F2A7mati Cadena_X = DAC6CCA373E4C950DF7C6880
8EA8113C96574611CA212F9600C30B730C2390830 Valor hash = 013E215C17271622EC61C4349420F92F52C6C51D556AD2
E64AC340B25B50E274 N°_ntentos = 7 ID = 013E215C17271622EC61C4349420F92F52C6C51D556AD2E64AC340B25B50E2
74mati Cadena_X = 122720CD59674DB3E6C2DAEC0FBAC420A4738CF26765D7C4A3A25991A86D6BDF Valor hash = 03719
45AB319ABB180BBB8B08A594F9E0C5F195C0A6A0D3555C70BF0454498D4 N°_ntentos = 165 ID = 0371945AB319ABB180B
BB8B08A594F9E0C5F195C0A6A0D3555C70BF0454498D4mati Cadena_X = 64E37C6771C96611A078A5ECA03F2ECC6A58AFC7
BC21C9392D44DC455E1C7F3B Valor hash = 0044E5F69B5FA411DCD164C17204A52E275085390B1E8858091D3D3C3C080BB
0 N°_ntentos = 42
b = 6

0 1 0
ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = 7A31AE4E162F542F16452C382DAE97FA159FC94D463671C719CC6591390E3138 Valor hash = 00491E18B8EE667A4458684DC4FFE7CE2F4F17BF254EF1049CAA055AC6F6E838mati Cadena_X = 5E7953A85162F6040BF3E3253B83CDFE9EC66307DFCA979D60BDC2A25AF18B25 Valor hash = 00FC5178BB80FEF5207679EE580A86874833322FF89091D1A6B7FBB3289C0543 N°_ntentos = 155 ID = 00FC5178BB80FEF5207679EE580A86874833322FF89091D1A6B7FBB3289C0543mati Cadena_X = 8DFB971F24B2CBA22317B7B6ADC07904E389D0BBE60AD376675BE91F173C2518 Valor hash = 0084E99FB77EAA3D8009AA53141E01195D2DB851B4FB24EF75CEA31072C921A4 N°_ntentos = 112 ID = 0084E99FB77EAA3D8009AA53141E01195D2DB851B4FB24EF75CEA31072C921A4mati Cadena_X = 7E6C974A45FD501EC300CCD63AE04891474CF63FC772A0C8A5BA05B4E20FA8B Valor hash = 002BB709F17A585FEFD976E91D585FEFD976E91DD1E6B862330705B8CC24D8FA4E6C6E77A7B3BE N°_ntentos = 130 ID = 002BB709F17A585FEFD976E91DD1E6B862330705B8CC24D8FA4E6C6E77A7B3BEmati Cadena_X = 333CDA2366C4E64AA656A0FAF5C1A86EB16A4143E428610E58131F98897D34C0 Valor hash = 008470ECB826A83533330BA4400AC5D915464BC813CC6BBD6178B9C273FC7260 N°_ntentos = 23 ID = 008470ECB826A83533330BA4400AC5D915464BC813CC6BBD6178B9C273FC7260mati Cadena_X = B98B6B0CA86655C49D91F4EEF175ED70FD9195E53493499DA96B457E0061EB2B Valor hash = 0129624CA24447172C50E202DD0611C9DBC8E0C488E724E7718A66D77EB59D5F N°_ntentos = 19 ID = 0129624CA24447172C50E202DD0611C9DBC8E0C488E724E7718A66D77EB59D5Fmati Cadena_X = DDBFA7FC5C23EBBD6C568E1FB3EEB3D6E487DF7E656F9DB7DAE5EF8486872135 Valor hash = 01196A0F21F0D898983BC68DD406296143DF9C3579661F093D472D2EEC1B1CC N°_ntentos = 0 ID = 01196A0F21F0D898983BC68DD406296143DF9C3579661F093D472D2EEC1B1CCmati Cadena_X = A51EA7AC042A9C5C5D4971AF212E9FA2325F19488C95FA492B65E72837447AD5 Valor hash = 0003996EE4A3A135CF34272EAF1A074243BB12B2F7820C6D1D388749F4695D5F N°_ntentos = 21 ID = 0003996EE4A3A135CF34272EAF1A074243BB12B2F7820C6D1D388749F4695D5Fmati Cadena_X = 6F6AF4A3AEB21EACC36E292B548BAAE224C4545974907EC5082FF0AFB47BEC6D Valor hash = 0130724F69D3C9606FFF875355C522F5EF753DC6B8C04F633BEB0A8D22750FE3 N°_ntentos = 179 ID = 0130724F69D3C9606FFF875355C522F5EF753DC6B8C04F633BEB0A8D22750FE3mati Cadena_X = 1E0552A1CE90A0CCBA597AC202792A35E7842280203B21DBAC1BC2D11EB226C0 Valor hash = 00BBB97B5B644262042D6720465E17944717EE7BACD7B9B38F0FF46ED690A984 N°_ntentos = 83
b = 7

0 1 0
ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = C21FF57DCE33FF7120C77A9989BD32BD191286291A8159AF237E086FA617F344 Valor hash = 00E4F53BE88F1AEE9D62CB7E39AF537B473872279322C29538DA28C74462C1A N°_ntentos = 272 ID = 00E4F53BE88F1AEE9D62CB7E39AF537B473872279322C29538DA28C74462C1Amati Cadena_X = 7AB03AA597828930F7C14CB209789331B21002420AECE2360D8BC1DBC9CA68B4 Valor hash = 005623C81F9E95EDD46D252DA844EE3BF4A50830242F5755E6DD4404FA6047A0 N°_ntentos = 438 ID = 005623C81F9E95EDD46D252DA844EE3BF4A50830242F5755E6DD4404FA6047A0mati Cadena_X = C250EFE76B47BE13BBE08E1FA955AC1D81C7CD5947492512204986F810EFB52F Valor hash = 00F7A04B2A05583EF6D7D43AEDD678A9037EA302FE47D578F2100FFA64BAE606 N°_ntentos = 497 ID = 00F7A04B2A05583EF6D7D43AEDD678A9037EA302FE47D578F2100FFA64BAE606mati Cadena_X = AC9F727DC1905F76A9AE39C3053C89F558510C5872A4D94DF14B1DEDC836D2E9 Valor hash = 006D32B88508F878A3174DAD543D5DA673C90FC210013660E0056B1C103F071A N°_ntentos = 62 ID = 006D32B88508F878A3174DAD543D5DA673C90FC210013660E0056B1C103F071Amati Cadena_X = 670FFBB86AE5C46903993DD120FDDF62B1A2C636BA41D1A31669015C35A87B8 Valor hash = 0086117D7501D2C2C7C6AE85477859E2CFB799009491CD18939C17201B497C38 N°_ntentos = 104 ID = 0086117D7501D2C2C7C6AE85477859E2CFB799009491CD18939C17201B497C38mati Cadena_X = 6D731E561E885C2B72B770BCDCCDA142A5C1B95A5DD0707C68715FB57F9A8D3C Valor hash = 00B56271769D405318351E4C8F2FEDA94C906EEFBEEB23E427E5F67A23FD13F5 N°_ntentos = 68 ID = 00B56271769D405318351E4C8F2FEDA94C906EEFBEEB23E427E5F67A23FD13F5mati Cadena_X = F13C8CAC3414C46040DC2EBD3F3CD6D0E8F3AF0AC816B30086AD5200AEB8F32C Valor hash = 0082868930C8D4B5613698CC56A5026A8B00E1EAF5C582BB6B9691742F276A9C7 N°_ntentos = 432 ID = 0082868930C8D4B5613698CC56A5026A8B00E1EAF5C582BB6B9691742F276A9C7mati Cadena_X = 29412FDBF0FCFC4BA82918FF30EEAA60E3DA60D65100A64DAB1D8E65A0A7F266 Valor hash = 0049C1281D434E2A66F021A8275B864E9B95844646C26878A7538AB81A869CF2 N°_ntentos = 494 ID = 0049C1281D434E2A66F021A8275B864E9B95844646C26878A7538AB81A869CF2mati Cadena_X = E7405ED506774B034E848BEEAD93447771D1DC7DBC38851F99F14BD2505024EB Valor hash = 00C85637E8029DD3D72FB214B89B1D6A2DEEF94B97A72C0D6B135E1B6AF2F305 N°_ntentos = 252 ID = 00C85637E8029DD3D72FB214B89B1D6A2DEEF94B97A72C0D6B135E1B6AF2F305mati Cadena_X = A52FD679CC312549BC8AE532647554BC2EB5D786F39020F80946B617B674E5A4 Valor hash = 008A73AD13B70E3BD0E95B55DD9B19407FA289C8D049723834110A97CF02ED253 N°_ntentos = 384
b = 8

```

ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = F6F31DC55066AF46
154AE316CF7504BF3266718B90C81BBE2800EBDFC0A0EA31 Valor hash = 00284850D2FD5DE3628702C09ECC9D0A5975E8D
625DB481227E7D9AF649E22A8 N°_ntentos = 339 ID = 00284850D2FD5DE3628702C09ECC9D0A5975E8D625DB481227E7D
9AF649E22A8mati Cadena_X = 5C5A2213D3C149FDC9E70F06FC2F1FB57F0039C0CA2F078465F0F85030730378 Valor has
h = 00722B65F751240094617761F974F498F1281006CB13FBDBE97F2A9339F78A22 N°_ntentos = 59 ID = 00722B65F75
1240094617761F974F498F1281006CB13FBDBE97F2A9339F78A22mati Cadena_X = AC2F5D9CFDFEB9470BC40B55C87BBED9
1F2672D956721E0C2FBA436B901B8668 Valor hash = 002CCB91DF6169F3E84ECBDC261BF09464D7D6484F9B9723634429C
AD8149088 N°_ntentos = 247 ID = 002CCB91DF6169F3E84ECBDC261BF09464D7D6484F9B9723634429CAD8149088mati
Cadena_X = 436DAF0C4D762DFCC2DFA533894EA6515F5C4CA441A62977A96DF3AA1F01015A Valor hash = 0008F07A4FF8
1855A91B90CB0ED5A3FAE701381CA44F0B9B8ED52669C1AB9120 N°_ntentos = 851 ID = 0008F07A4FF81855A91B90CB0E
D5A3FAE701381CA44F0B9B8ED52669C1AB9120mati Cadena_X = 39373B0304C00783796AD207AE06E692D1C3CE382EEC668
1A81EEACEE900B558 Valor hash = 001C6E806624979DFA3F27139D77BB60E69595D41B1E872195796577408394BF N°_nt
entos = 16 ID = 001C6E806624979DFA3F27139D77BB60E69595D41B1E872195796577408394BFmati Cadena_X = 5DB14
E12AA7419204CD51F2A0A7992AC582FE56EEE0852BC56984F378B1BBB4A Valor hash = 00588AD61A8E12F55F9A3FFC3F40
9E257E66C60BFA9A16FC4CA3A34A07916E02 N°_ntentos = 105 ID = 00588AD61A8E12F55F9A3FFC3F409E257E66C60BFA
9A16FC4CA3A34A07916E02mati Cadena_X = ED2B2230E72277B2FB5BC0EB7A03C4D651B0EFDDBE676F5344585EEAA539E242
D Valor hash = 006E870CA2FD3640D0E855E033BD88574231F4F694D5799D832658D33712C9C1 N°_ntentos = 693 ID =
006E870CA2FD3640D0E855E033BD88574231F4F694D5799D832658D33712C9C1mati Cadena_X = 7DEC5361388543C6D2E8
B689CD5E57B5B58FBDDFEE098C6224E0CC009CABA7E Valor hash = 0013479EA4CDAB6B8707CD92D704EE340D12D1A8D56
3BC9E5CA8DF5354A69E2E N°_ntentos = 473 ID = 0013479EA4CDAB6B8707CD92D704EE340D12D1A8D563BC9E5CA8DF535
4A69E2Emati Cadena_X = C8EB789B1E021615A64B9645709877D3599FBD3EC375F0D503D20E7DFFACA070 Valor hash =
0001CCD3B6C8531969FEA06E707578F4433F75DD014FA1F8CA9ADEA532831056 N°_ntentos = 224 ID = 0001CCD3B6C853
1969FEA06E707578F4433F75DD014FA1F8CA9ADEA532831056mati Cadena_X = 267906E20E288FBD3DAE6EF17C9237E2F08
F8AAD01E18803CC7FAFAC892F4DA8 Valor hash = 0057022D151E3474391B8CF1282BCB60825A75F530F98F3814B37DA82D
A9368C N°_ntentos = 114
b = 9

```

```

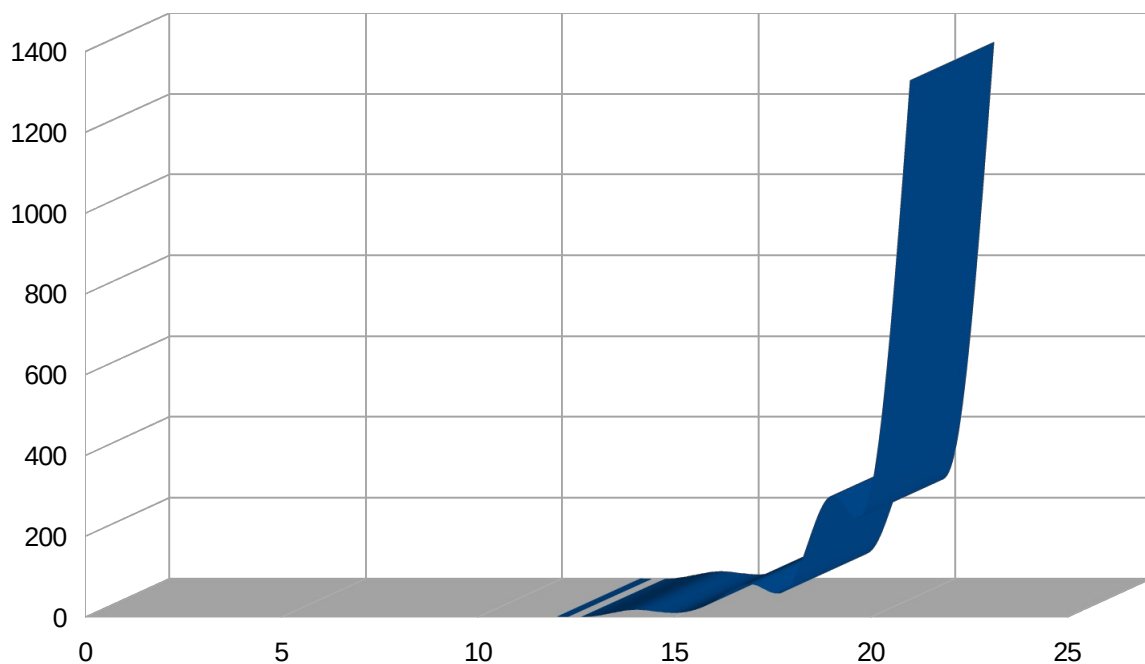
ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = FFE161A81483262F
AFC139692B4AF6F689A999802EEBA1DCCF65B170B01FD17 Valor hash = 003BAFD15B3D239BBA7936B8DBE5B49267D68F06
7F5ABCC3E033DFFD6447A5367 N°_ntentos = 21 ID = 003BAFD15B3D239BBA7936B8DBE5B49267D68F067F5ABCC3E033DFFD
6447A5367mati Cadena_X = 8D70C6BFD50B2A7D8C264A5B3016DB0E6089DEE8F3B086216FB8BD2BE406450 Valor hash =
0039C5B2D7DE9F5EDD7EC1493A967C0263E76250D9CF52743CCC720801F70C55 N°_ntentos = 1257 ID = 0039C5B2D7D
E9F5EDD7EC1493A967C0263E76250D9CF52743CCC720801F70C55mati Cadena_X = 83FDE2AD2E798AAA239BED61AB3F8CB
F0A46A3BA440144733D4AC2A96EF9999 Valor hash = 003A30AD0682BCB9D15EB0840B448C580155F77E89F42EDF56F033E
5F0DF1BE0 N°_ntentos = 1630 ID = 003A30AD0682BCB9D15EB0840B448C580155F77E89F42EDF56F033E5F0DF1BE0mati
Cadena_X = DD2E6A5BCE635F461B97582AC9417C31E7705923BEBB9C042255CF973D087A Valor hash = 002B86F4F3CF
754AFAC1E178627D998F8EB4BACAE7FBDCE7FA30890F70FD0DB6 N°_ntentos = 1631 ID = 002B86F4F3CF754AFAC1E1786
27D998F8EB4BACAE7FBDCE7FA30890F70FD0DB6mati Cadena_X = 10F7D83D0D889FA35427702ECF651CC4E3B49E667DA22A
954C003F79D354D8AC Valor hash = 00152A021B47494E6E6B6EBB7A59D0B926540F0DEBE83DFF3A372735D62D467 N°_n
tentos = 43 ID = 00152A021B47494E6E6B6EBB7A59D0B926540F0DEBE83DFF3A372735D62D467mati Cadena_X = 5E64
CB37FED72A7C16B1E37C93A58D90631FF99F3BBF50BDE8C9DD175B1E70EB Valor hash = 003D42EBBC787C627D535AB393F
DB54B7F78E59987A6050398579CB9C38DB49C N°_ntentos = 664 ID = 003D42EBBC787C627D535AB393FDB54B7F78E5998
7A6050398579CB9C38DB49Cmati Cadena_X = 61D394A56CCA320C5B08F8D3AD0275653EBF09429E45A12612E6D295B13CDC
D6 Valor hash = 00351735A9E64F1FEAD9006028C8E2C9CF7CFD532027EFE7899F1C7852492D54 N°_ntentos = 106 ID
= 00351735A9E64F1FEAD9006028C8E2C9CF7CFD532027EFE7899F1C7852492D54mati Cadena_X = 8A074522BF8350F6FAE
0E021079AF616C9E7999503888AC3B21C4961D7E4002A Valor hash = 002EBF2C7358DAA86FB69EA5ED0C427215B0CBD8FC
7F68B03C09529571594F97 N°_ntentos = 1576 ID = 002EBF2C7358DAA86FB69EA5ED0C427215B0CBD8FC7F68B03C09529
571594F97mati Cadena_X = 3FDF1D237DA44829B3457594CE744703E7E38355A8A071F181B34B966576ACCC Valor hash
= 0018F3E2DCF4C5F06BA5778DCC491C334E9265F470E6B54DD031FCE763D319CF N°_ntentos = 3291 ID = 0018F3E2DCF
4C5F06BA5778DCC491C334E9265F470E6B54DD031FCE763D319CFmati Cadena_X = 6706041746F8C729A73078A2C8039534
71F7D9850FF996CDDE67C9E6CFB977E3 Valor hash = 002EBA38B5E94CB724B249DBBB1BBD035F7F9E603F8F99CBD1D62C4
8E7538726 N°_ntentos = 3071
b = 10

```

5. Construid una tabla/gráfica que tenga en el eje de abscisas el número de bits b y en el eje de ordenadas la media de número de intentos empleados en las 10 ejecuciones de la función del apartado 1 para cada valor de b .

Recojo los resultados en un texto.txt, borro todo excepto los datos que necesito. Lo paso a un texto.csv y lo delimito con “;”, al pasarlo a excel solo tenemos que calcular la media y la gráfica.

	N.º Intentos										Media
b = 1	0	1	0	0	3	3	0	0	1	1	0,9
b = 2	1	5	7	4	1	0	0	0	0	11	2,9
b = 3	2	71	5	9	18	30	27	6	11	1	18
b = 4	5	16	17	6	2	9	34	4	10	1	10,4
b = 5	32	107	43	53	4	2	50	1	61	36	38,9
b = 6	125	34	273	99	30	10	28	7	165	42	81,3
b = 7	136	155	112	130	23	19	0	21	179	83	85,8
b = 8	272	438	497	62	104	68	432	494	252	384	300,3
b = 9	339	59	247	851	16	105	693	473	224	114	312,1
b = 10	21	1257	1630	1631	43	664	106	1576	3291	3071	1329



6. Construid una nueva función similar a la del apartado 1 con el siguiente cambio: Se toma un primer valor aleatorio x y se va incrementando de 1 en 1 hasta obtener el hash requerido.

```
function ejerseis {
    condicion=0
    until [[ $condicion -gt 9 ]];
    do
        ids=$CADENA$TEXT0 # id que concatena una
        cadena de n bits con el texto.
        idxs=$x$ids # concateno o pego el ids anterior a x.
```



```

        has=$(echo -n "$idsx" | sha256sum | awk '{print
$1}') #genero hash
        has=$(echo $has | tr '[:lower:]' '[:upper:]') #paso
valor hexa de min a mayuscula
        BIN=$(incluirceros $has) # devuelve la cadena
hash en binario
        BIN=$(echo $BIN | tr -d '[:space:]') #quito los
espacios
        recorto=$(echo ${BIN:0:$B}) # cogo los primeros b
bits para comparar
        NUM=$(generadoraceros $B)
        NUM=$(echo $NUM | tr -d '[:space:]')
        if [ "$recorto" = "$NUM" ]; then
            echo "ID = "$ids
            echo "Cadena_X = "$x
            echo " Valor hash = "$has
            echo " N°_ntentos = "$condicion
            break
        fi
        x=$( echo 0x$x )
        var=$( echo $(( $x + 1 )) ) # suma uno
        x=$(echo 16o${var}p |dc ) # lo devuelve en
hexadecimal
        let condicion=$condicion+1
    done
}

```

```

gene=$(generador) #cadena aleatoria x de n bits
gene=$(echo $gene | tr -d '[:space:]') # quita espacios de
la cadena aleatoria x de n bits(256)
x=$(echo 'ibase=2;obase=10000;$gene'|bc) # pasa de
binario a hexadecimal el valor x
CADENA=$(echo -n | sha256sum | awk '{print $1}') # la
primera cadena la generamos.
B=2
TEXTO="mati"
RESULTADO=$(ejerseis $TEXTO $B $CADENA $x)
echo $RESULTADO

```

```

mati@mati-Lenovo-Z50-70:~/Dropbox/4.1 informatica/SPSI/Practicas/Practica5$ ./script.sh
dc: stack empty
ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = 5679A87E056E5372
Valor hash = 0EAC1F311F96234FEF613BC3843A01E3D9DAB8D042CE2A930ED064C401EA932D N°_ntentos = 5
mati@mati-Lenovo-Z50-70:~/Dropbox/4.1 informatica/SPSI/Practicas/Practica5$ ./script.sh
dc: stack empty
ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = 29FBF1CE94A686E5
Valor hash = 32A74FEC77AA06BEABC30B2FB8A7E4991A060F67EBD30C36F77FC64CD514BBF7 N°_ntentos = 2
mati@mati-Lenovo-Z50-70:~/Dropbox/4.1 informatica/SPSI/Practicas/Practica5$ ./script.sh
ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = 2E1FACC1B31578BF
64D0D7224D63EB75C51403E224FE79FE25CE2607BEF55DC Valor hash = 342CE79604BC130484B53245838B28B72EDEF587
17B6B6F04F93FD9D4F2E9E7B N°_ntentos = 0

```

7. Construid una nueva simulación de una blockchain similar a la de los apartados 2 a 4 pero empleando la función del apartado 6.

Codigo:

```

function ejersiete {
    gene=$(generador) #cadena aleatoria x de n bits
    gene=$(echo $gene | tr -d '[:space:]') # quita espacios
    de la cadena aleatoria x de n bits(256)
    x=$(echo 'ibase=2;obase=10000;$gene'|bc) # pasa de
    binario a hexadecimal el valor x
    CADENA=$(echo -n | sha256sum | awk '{print $1}') # la
    primera cadena la generamos.
    cuenta=0
    until [[ $cuenta -gt 9 ]];
    do
        TEXTO="mati"
        RESULTADO=$(ejeruno $TEXTO $B $CADENA $x)
        echo $RESULTADO
        CADENA=$(echo -n "$RESULTADO" | awk '{print
$4}')
        let cuenta=$cuenta+1
    done
}

B=1
until [[ $cuenta -gt 2 ]];
do
    cuatro=$(ejersiete $B)
    echo $cuatro
    echo "b = "$B
    let B=$B+1
done

```

En cada iteración le sumamos uno a X, si encontramos el valor en 3 iteraciones, entonces $x=x+3$.

Salida:

```
ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = 793533C7B3FA4E61 Valor hash = 52E96B19688CA9212E2C987D87A12000958BB478355E60ABC8171AF5E59BCD92 N°_ntentos = 1 ID = 52E96B19688CA9212E2C987D87A12000958BB478355E60ABC8171AF5E59BCD92mati Cadena_X = 300800DF4A5BBF1AA8B30E8E046386956933280994916BBF86CACC384C05B19E Valor hash = 1BA18083DE0001E23BEE9F1637BF9F273CF84F53D095B743D9D7CE9E11DFAE9 N°_ntentos = 0 ID = 1BA18083DE0001E23BEE9F1637BF9F273CF84F53D095B743D9D7CE9E11DFAE9mati Cadena_X = 793533C7B3FA4E61 Valor hash = 1BB2F8CFFF8BE2D6658BE0FC510748FE8F36AD21AB5CA2C4936ECE8E49DBDB3A N°_ntentos = 1 ID = 1BB2F8CFFF8BE2D6658BE0FC510748FE8F36AD21AB5CA2C4936ECE8E49DBDB3Amati Cadena_X = 793533C7B3FA4E62 Valor hash = 36428201497860505C589BC210781339755AB7B22E41000AE4A52B00EDED5CCF N°_ntentos = 2 ID = 36428201497860505C589BC210781339755AB7B22E41000AE4A52B00EDED5CCFmati Cadena_X = 300800DF4A5BBF1AA8B30E8E046386956933280994916BBF86CACC384C05B19E Valor hash = 54F0AB73B28414D106AACCC0BA661296BFFEE99F9A09BA27303FA42356ADC6BC N°_ntentos = 0 ID = 54F0AB73B28414D106AACCC0BA661296BFFEE99F9A09BA27303FA42356ADC6BCmati Cadena_X = 300800DF4A5BBF1AA8B30E8E046386956933280994916BBF86CACC384C05B19E Valor hash = 78B5D868ECC72694421D462CE3C3F10415E6EA90926B42B2C5045BE4A748B3F7mati Cadena_X = 793533C7B3FA4E66 Valor hash = 7443732C7616E60EB003E05283996E72E937E0378CD80EA6CFB78D3A1DA7588A N°_ntentos = 6 ID = 7443732C7616E60EB003E05283996E72E937E0378CD80EA6CFB78D3A1DA7588Amati Cadena_X = 300800DF4A5BBF1AA8B30E8E046386956933280994916BBF86CACC384C05B19E Valor hash = 07253AF6ECA9E02FB7BF72EAF52BD24D1FADF21C9F9A5C2EE3DBAF6A77D716EC N°_ntentos = 0 ID = 07253AF6ECA9E02FB7BF72EAF52BD24D1FADF21C9F9A5C2EE3DBAF6A77D716ECmati Cadena_X = 300800DF4A5BBF1AA8B30E8E046386956933280994916BBF86CACC384C05B19E Valor hash = 40863E87FE99189A2C44B158EB28502C3F717F9BEF4EA7AB8F95AC39554869B8 N°_ntentos = 0 ID = 40863E87FE99189A2C44B158EB28502C3F717F9BEF4EA7AB8F95AC39554869B8mati Cadena_X = 793533C7B3FA4E61 Valor hash = 386056D6B77F58FA2B6EA266F35AFFB91B89F960B8C6D6CB50D9F92C2FD71DA3 N°_ntentos = 1 b = 1
```

```
dc: stack empty ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = 73F3D44A94DC3BA2 Valor hash = 15A5EA6F14874AB468904A07F40FBE31A5559A23F38EB1AD1BDF9A72D8E1B9AC N°_ntentos = 1 ID = 15A5EA6F14874AB468904A07F40FBE31A5559A23F38EB1AD1BDF9A72D8E1B9ACmati Cadena_X = 36716A865AC4E34791DDFF0938242A3E47DD24E84EB50FF78C0C2BB56B23C45D Valor hash = 1206D27DCCDC7D90ED005730B9B1770CA30F975F02459EC4270042EB31308259 N°_ntentos = 0 ID = 1206D27DCCDC7D90ED005730B9B1770CA30F975F02459EC4270042EB31308259mati Cadena_X = 73F3D44A94DC3BA2 Valor hash = 1FAEFC1D1E3F0C63C102A4BC76A1DA2D1245365B32DCF20F27C08603125EEF53 N°_ntentos = 1 ID = 1FAEFC1D1E3F0C63C102A4BC76A1DA2D1245365B32DCF20F27C08603125EEF53mati Cadena_X = 36716A865AC4E34791DDFF0938242A3E47DD24E84EB50FF78C0C2BB56B23C45D Valor hash = 2EDC04FBB7F46FDB5A30B8F21A505A18FFE2CAE924FE1566C2C92A45D1259875 N°_ntentos = 0 ID = 2EDC04FBB7F46FDB5A30B8F21A505A18FFE2CAE924FE1566C2C92A45D1259875mati Cadena_X = 36716A865AC4E34791DDFF0938242A3E47DD24E84EB50FF78C0C2BB56B23C45D Valor hash = 146BA4DBB3D94F774A54D40BC62FF0FC29117438C7041F776D8F96340C29A3AD N°_ntentos = 0 ID = 146BA4DBB3D94F774A54D40BC62FF0FC29117438C7041F776D8F96340C29A3ADmati Cadena_X = 73F3D44A94DC3BA2 Valor hash = 0E199760983B6F805CA6EBB3ED6297B2FE164D17EF0E5518EFA918C058EB2B8B N°_ntentos = 3 ID = 0E199760983B6F805CA6EBB3ED6297B2FE164D17EF0E5518EFA918C058EB2B8Bmati Cadena_X = 36716A865AC4E34791DDFF0938242A3E47DD24E84EB50FF78C0C2BB56B23C45D Valor hash = 0CF6D439A596C2DAA9CC3948629937CF128B59C3AE16E3546563E067CE1FEA4B N°_ntentos = 0 ID = 0CF6D439A596C2DAA9CC3948629937CF128B59C3AE16E3546563E067CE1FEA4Bmati Cadena_X = 73F3D44A94DC3BA2 Valor hash = 00C7F10CB33A78EBDD2CED2F7C587B8303442EB6270C35781AA26645E65957C0 N°_ntentos = 1 ID = 00C7F10CB33A78EBDD2CED2F7C587B8303442EB6270C35781AA26645E65957C0mati Cadena_X = 36716A865AC4E34791DDFF0938242A3E47DD24E84EB50FF78C0C2BB56B23C45D Valor hash = 1EEF36607289ACEDE9524EDD9D97BF9A4CB95984095D22A3C1210FFDC8295F95 N°_ntentos = 0 ID = 1EEF36607289ACEDE9524EDD9D97BF9A4CB95984095D22A3C1210FFDC8295F95mati Cadena_X = 73F3D44A94DC3BA2 Valor hash = 356B7D261548CE49E97348295A53C66CCDD3285FC39118BF54228ABBFEE4A7C6 N°_ntentos = 1 b = 2
```



```
ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = A10AF352B7CA63FF4B15AC359A77CAD814CD25BC022C3C907E0DDCD0DBECC108 Valor hash = 18AF1326FF424EABE1568386955107C49C7225F028AC9ECA46C26CB65EBAC449 N°_ntentos = 0 ID = 18AF1326FF424EABE1568386955107C49C7225F028AC9ECA46C26CB65EBAC449mati Cadena_X = 7E0DDCD0DBECC11A Valor hash = 046F5A334F9E90CECBD4382BF56350642ECFAE1DCB5C26D157163616B2D4D08D N°_ntentos = 18 ID = 046F5A334F9E90CECBD4382BF56350642ECFAE1DCB5C26D157163616B2D4D08Dmati Cadena_X = 7E0DDCD0DBECC111 Valor hash = 1AC266115C134F9B0C1B367C65001290FE71486868471A1C84DCE5B537A487CD N°_ntentos = 9 ID = 1AC266115C134F9B0C1B367C65001290FE71486868471A1C84DCE5B537A487CDmati Cadena_X = 7E0DDCD0DBECC10A Valor hash = 1B94A434DDFADD10125273D17F0C769608360517EE34E91C6449F802EB991183 N°_ntentos = 2 ID = 1B94A434DDFADD10125273D17F0C769608360517EE34E91C6449F802EB991183mati Cadena_X = 7E0DDCD0DBECC10B Valor hash = 00E9AABF9BECB67A0C803EB702726F84EF5FD00DA161605C7FE1C35F7B3F2600 N°_ntentos = 3 ID = 00E9AABF9BECB67A0C803EB702726F84EF5FD00DA161605C7FE1C35F7B3F2600mati Cadena_X = 7E0DDCD0DBECC109 Valor hash = 0D7428DB5EFE264BAC695AD0F96260553BFA3108911F95F31FEA0E5E7CDE912E N°_ntentos = 1 ID = 0D7428DB5EFE264BAC695AD0F96260553BFA3108911F95F31FEA0E5E7CDE912E mati Cadena_X = A10AF352B7CA63FF4B15AC359A77CAD814CD25BC022C3C907E0DDCD0DBECC108 Valor hash = 0C4A48948B162758F985241D46FC7FAF5490FC548E95BEF9D3121F8EDB45D670 N°_ntentos = 0 ID = 0C4A48948B162758F985241D46FC7FAF5490FC548E95BEF9D3121F8EDB45D670mati Cadena_X = A10AF352B7CA63FF4B15AC359A77CAD814CD25BC022C3C907E0DDCD0DBECC108 Valor hash = 1057C665BC3A77E12A5E48D42F6F4BF530865362F23FB8FF8810B8A6633E0859 N°_ntentos = 0 ID = 1057C665BC3A77E12A5E48D42F6F4BF530865362F23FB8FF8810B8A6633E0859mati Cadena_X = 7E0DDCD0DBECC10D Valor hash = 1AC93B0CFA0B43FF323401519C582EA45EC9BA4777883D49C3176A2DE0C694F6 N°_ntentos = 5 ID = 1AC93B0CFA0B43FF323401519C582EA45EC9BA4777883D49C3176A2DE0C694F6mati Cadena_X = 7E0DDCD0DBECC10C Valor hash = 02AF579611CB7EC65F449B68FD11B32CA705406E795C36AC71D1A9B899BDC27C N°_ntentos = 4 b = 3 dc: stack empty
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ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = 79C5A8210B435779 Valor hash = 049133F8665B47BF53F12677A921E008C8699488A7D5BC8E8CE852B59957F2BE N°_ntentos = 8 ID = 049133F8665B47BF53F12677A921E008C8699488A7D5BC8E8CE852B59957F2BE mati Cadena_X = 79C5A8210B435780 Valor hash = 0F60BFDB151BC2123F5645E4C2801EC984059114B1FD66712B40B805832E4E09 N°_ntentos = 15 ID = 0F60BFDB151BC2123F5645E4C2801EC984059114B1FD66712B40B805832E4E09 mati Cadena_X = 9DB5C15828B1FB6B9A949E8860803B0B01CFA3EB708CEBD4863A57DEF4BCA88D Valor hash = 0A9F8573A23C7D65261F1813032DCDC890C18AC8DEC30D37C0BB92F94E3A02D5 N°_ntentos = 0 ID = 0A9F8573A23C7D65261F1813032DCDC890C18AC8DEC30D37C0BB92F94E3A02D5 mati Cadena_X = 79C5A8210B435784 Valor hash = 08B075454BC3FB3A21791883336B28CF93FE9648A235D3BEAAE87D684815E289 N°_ntentos = 19 ID = 08B075454BC3FB3A21791883336B28CF93FE9648A235D3BEAAE87D684815E289 mati Cadena_X = 79C5A8210B435773 Valor hash = 0C67A5A9268F3D94D7DDA80CAA34FF58A06647EA3EAF0699CD54D31961453F9A N°_ntentos = 2 ID = 0C67A5A9268F3D94D7DDA80CAA34FF58A06647EA3EAF0699CD54D31961453F9A mati Cadena_X = 79C5A8210B435775 Valor hash = 0AF60E111D0FA7AB8E16B0B2E25B230F73831AD556ED48F4961FBCD2C0722C8A N°_ntentos = 4 ID = 0AF60E111D0FA7AB8E16B0B2E25B230F73831AD556ED48F4961FBCD2C0722C8A mati Cadena_X = 79C5A8210B435776 Valor hash = 03308AC69099D7088A8CA48A7AAA5F963878EAF0C28DA6422ABD9C0BA53FBC67 N°_ntentos = 5 ID = 03308AC69099D7088A8CA48A7AAA5F963878EAF0C28DA6422ABD9C0BA53FBC67 mati Cadena_X = 79C5A8210B4357B3 Valor hash = 0E50133BE139EF313BAE5CE94C2E7DF30EEC5CE3CD6AF35CACB3AFE7778FA222 N°_ntentos = 66 ID = 0E50133BE139EF313BAE5CE94C2E7DF30EEC5CE3CD6AF35CACB3AFE7778FA222 mati Cadena_X = 79C5A8210B435778 Valor hash = 0B8491FF16FAA26B15D783BB018B47F46B5A67BE419A7038F6696DB647B1FBF9 N°_ntentos = 7 ID = 0B8491FF16FAA26B15D783BB018B47F46B5A67BE419A7038F6696DB647B1FBF9 mati Cadena_X = 79C5A8210B435793 Valor hash = 0E5262DA42CFB6EB3FC77DF437EEF61B6483F9AEF3C790C7928AE4C0645B17BE N°_ntentos = 34 b = 4
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ID = e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = 5C92CA3FC77ABAD0 Valor hash = 0649626566516EF7F2E94915658143A3E74883034C96F1BE3D4A54D41AFE4CC2 N°_ntentos = 74 ID = 0649626566516EF7F2E94915658143A3E74883034C96F1BE3D4A54D41AFE4CC2mati Cadena_X = 5C92CA3FC77ABA87 Valor hash = 04EF671627E675D0355622E51482211F982654E1ECCA3B5455F9F274FF184885 N°_ntentos = 1 ID = 04EF671627E675D0355622E51482211F982654E1ECCA3B5455F9F274FF184885 mati Cadena_X = 5C92CA3FC77ABAD0 Valor hash = 0625E7558BCB0DCE6417110DDB40FA922A9F519671D3360B7ED48FD8045C5F37 N°_ntentos = 74 ID = 0625E7558BCB0DCE6417110DDB40FA922A9F519671D3360B7ED48FD8045C5F37mati Cadena_X = 5C92CA3FC77ABA88 Valor hash = 04AC71539826B4747D9CFC62A949F6646F2DADCF78B553198441D6E01B016AC N°_ntentos = 2 ID = 04AC71539826B4747D9CFC62A949F6646F2DADCF78B553198441D6E01B016ACmati Cadena_X = 5C92CA3FC77ABAB1 Valor hash = 0724F65F27A112421A93F1502559D3F983A09175715F9751E0D4B31769DC327A N°_ntentos = 43 ID = 0724F65F27A112421A93F1502559D3F983A09175715F9751E0D4B31769DC327Amati Cadena_X = 5C92CA3FC77ABAAE Valor hash = 0572E9E6C13907FD1AFB9CADF5B6D2FF120093AC4A322FD0500B1E5CCE056377 N°_ntentos = 40 ID = 0572E9E6C13907FD1AFB9CADF5B6D2FF120093AC4A322FD0500B1E5CCE056377mati Cadena_X = 5C92CA3FC77ABAD6 Valor hash = 01CD6600D2AFA2952984EFF52CB12303C9BBB5AF8B9B23AD2F794FCC84C14DE1 N°_ntentos = 80 ID = 01CD6600D2AFA2952984EFF52CB12303C9BBB5AF8B9B23AD2F794FCC84C14DE1mati Cadena_X = 5C92CA3FC77ABAC1 Valor hash = 04DCA4E3E4AB3B6C5DA7140421128EAF809AA026A4000FDB3A3C2B15843373CF N°_ntentos = 59 ID = 04DCA4E3E4AB3B6C5DA7140421128EAF809AA026A4000FDB3A3C2B15843373CFmati Cadena_X = 5C92CA3FC77ABA97 Valor hash = 01764038AA3742FC4A1525D54261DA74D211F2F12EB94B9C15CCA0446B2B17D6 N°_ntentos = 17 ID = 01764038AA3742FC4A1525D54261DA74D211F2F12EB94B9C15CCA0446B2B17D6mati Cadena_X = 5C92CA3FC77ABAC3 Valor hash = 068510C4980DC1A104EB6C2E572189C464C7145BF6BEC24B751636C03C9F9C07 N°_ntentos = 61
b = 5

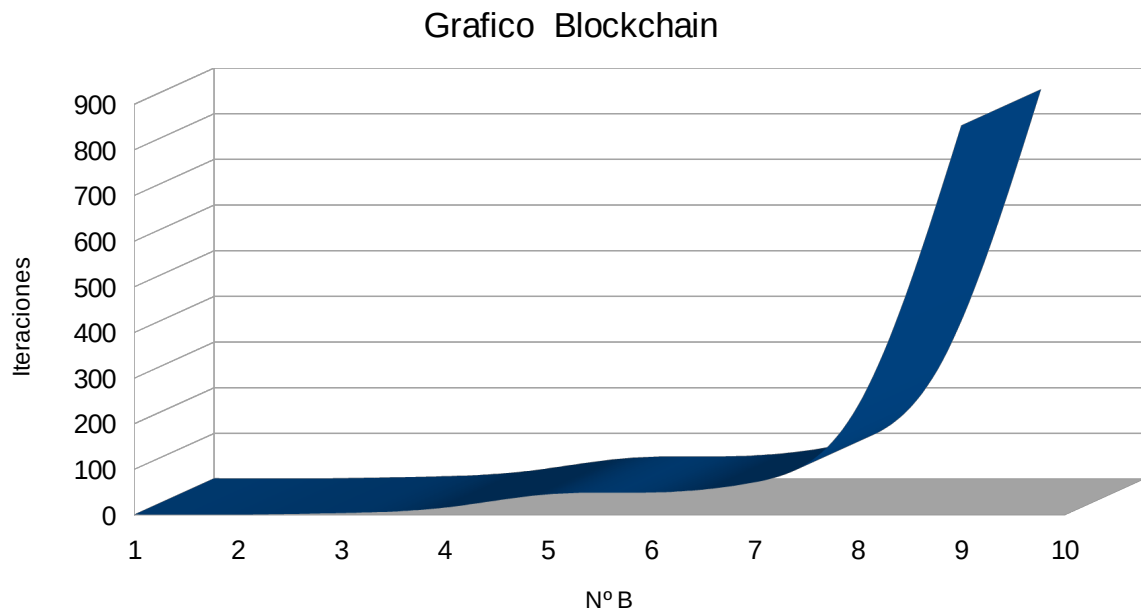
ID = e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = 2370ED67CD2D9CD Valor hash = 02143ED5181F91FCE79E11441918328FEF389F882A6904D230F212A5F42B4782 N°_ntentos = 33 ID = 02143ED5181F91FCE79E11441918328FEF389F882A6904D230F212A5F42B4782mati Cadena_X = 2370ED67CD2D9BF Valor hash = 02886731698CD697BC7D4B95A9385D12943E6CE8315CF0925CA2CE524790F4D9 N°_ntentos = 19 ID = 02886731698CD697BC7D4B95A9385D12943E6CE8315CF0925CA2CE524790F4D9mati Cadena_X = 2370ED67CD2D9D4 Valor hash = 03EB7C7EAECE51DAB465CC952CBBC02E2B2B09F365534062988ED2D1874FE26C N°_ntentos = 40 ID = 03EB7C7EAECE51DAB465CC952CBBC02E2B2B09F365534062988ED2D1874FE26Cmati Cadena_X = 2370ED67CD2D9D7 Valor hash = 031A967AC9DC413C05335C8C6B94C4C743959C60CBF635A1F9CDDF9909482539 N°_ntentos = 43 ID = 031A967AC9DC413C05335C8C6B94C4C743959C60CBF635A1F9CDDF9909482539mati Cadena_X = 2370ED67CD2D9B4 Valor hash = 01BE675301FABB8466AD92CA1ADB28E3341B578474C39545F8B425B5556BCB33 N°_ntentos = 8 ID = 01BE675301FABB8466AD92CA1ADB28E3341B578474C39545F8B425B5556BCB33mati Cadena_X = 2370ED67CD2D9AF Valor hash = 01FD43F5A797FEF690A4BB65CEAB46EC0C9EF7C6D5EAC962DC2791A5C0CAE638 N°_ntentos = 3 ID = 01FD43F5A797FEF690A4BB65CEAB46EC0C9EF7C6D5EAC962DC2791A5C0CAE638mati Cadena_X = 2370ED67CD2DA37 Valor hash = 039234A99C32F9DBAF5BCEA66C53012947ABC5C1B8A3AB44C9F640BABA2A0FA1 N°_ntentos = 139 ID = 039234A99C32F9DBAF5BCEA66C53012947ABC5C1B8A3AB44C9F640BABA2A0FA1mati Cadena_X = 2370ED67CD2D9C0 Valor hash = 0307B04559652160BB2491A352080DF8A3D82D2145F6C478C2A3B865BC2304D8 N°_ntentos = 20 ID = 0307B04559652160BB2491A352080DF8A3D82D2145F6C478C2A3B865BC2304D8mati Cadena_X = 2370ED67CD2D9E6 Valor hash = 033B2DBA03129ED5ABBA13A49C90D4926B046E1E4A3422D7779B39CE135F77CE N°_ntentos = 58 ID = 033B2DBA03129ED5ABBA13A49C90D4926B046E1E4A3422D7779B39CE135F77CEmati Cadena_X = 2370ED67CD2DA2A Valor hash = 02B1853AA28A05E0E9B3DB3049148E8C95BA09CA8A575068B586FB4CF38BAC6A N°_ntentos = 126
b = 6

get_block_info

ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = 1B90D6CE0591536C Valor hash = 0180D1615313690F277113708BBCEE704A0156AB51EA5E9BB8AFDBAB0495733B N°_ntentos = 79 ID = 01B0D1615313690F277113708BBCEE704A0156AB51EA5E9BB8AFDBAB0495733Bmati Cadena_X = 1B90D6CE0591533B Valor hash = 01F10DDD7F8A4C55D4F96B9BE4143B4845D2143AA16CFDB9669008FFF4B06309 N°_ntentos = 30 ID = 01F10DDD7F8A4C55D4F96B9BE4143B4845D2143AA16CFDB9669008FFF4B06309mati Cadena_X = 1B90D6CE05915344 Valor hash = 00F705E22BF0D6A54F2BE80EEB04973892EE1DCC53A25C3CF93F2B090A541A3F N°_ntentos = 39 ID = 00F705E22BF0D6A54F2BE80EEB04973892EE1DCC53A25C3CF93F2B090A541A3Fmati Cadena_X = 1B90D6CE0591534E Valor hash = 01C14F26C1D6E87820BADC94D7057B794237BB087ECD5780A1EEAE92F7A37159 N°_ntentos = 49 ID = 01C14F26C1D6E87820BADC94D7057B794237BB087ECD5780A1EEAE92F7A37159mati Cadena_X = 1B90D6CE0591537A Valor hash = 013FE780FC8B0B9B6751D2B33317A5EB78DC3E9143D18B266DE929A4700D88F1 N°_ntentos = 93 ID = 013FE780FC8B0B9B6751D2B33317A5EB78DC3E9143D18B266DE929A4700D88F1mati Cadena_X = 1B90D6CE05915378 Valor hash = 0169028C6F688F8CA57C32D8428A381B34EF888F4BDAE836DF077DB7693AEBBB N°_ntentos = 91 ID = 0169028C6F688F8CA57C32D8428A381B34EF888F4BDAE836DF077DB7693AEBBBmati Cadena_X = 1B90D6CE0591539A Valor hash = 011E31E54106FBCECC0EC7B40A9A36A94A78AF3AC40260D452ABED95A5699C85 N°_ntentos = 125 ID = 011E31E54106FBCECC0EC7B40A9A36A94A78AF3AC40260D452ABED95A5699C85mati Cadena_X = 1B90D6CE05915320 Valor hash = 01FDD4D18655F912FE546B1F6E0FDECFB26717B0D82138E62F8C312297763ED5 N°_ntentos = 3 ID = 01FDD4D18655F912FE546B1F6E0FDECFB26717B0D82138E62F8C312297763ED5mati Cadena_X = 1B90D6CE05915341 Valor hash = 01093433900AFB3B0828DD0DD841EC8328413CDA11B8C549ADD2F11CEC8016C3 N°_ntentos = 36 ID = 01093433900AFB3B0828DD0DD841EC8328413CDA11B8C549ADD2F11CEC8016C3mati Cadena_X = 1B90D6CE059153C4 Valor hash = 0096388D11C017D19F8CFDF3592AE28D98B99CE3B23E6D6208C610FBEADD6440 N°_ntentos = 167
b = 7

get_block_info

ID = e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855mati Cadena_X = 5363659B616EFEF3 Valor hash = 004FAC4062AAB83D13C36D7A4BF2EF681A724028B2F61F57845A71955886EE6A N°_ntentos = 863 ID = 004FAC4062AAB83D13C36D7A4BF2EF681A724028B2F61F57845A71955886EE6Amati Cadena_X = 5363659B616EFCE0 Valor hash = 00AD7CEA0FBFA6D4CDC92784B317E465BD3F2FA3E6143161BDE511163478B2E8 N°_ntentos = 332 ID = 00AD7CEA0FBFA6D4CDC92784B317E465BD3F2FA3E6143161BDE511163478B2E8mati Cadena_X = 5363659B616EFBF7 Valor hash = 00097913F317CA43BB582FCBEB416000EA6F709609B0A00D8C7443BCBC393EE7 N°_ntentos = 99 ID = 00097913F317CA43BB582FCBEB416000EA6F709609B0A00D8C7443BCBC393EE7mati Cadena_X = 5363659B616EFC35 Valor hash = 00D17D14096844AEE1DE8AB4E883333D9471E3C939D9E1D1209C74B3017F3AB4 N°_ntentos = 161 ID = 00D17D14096844AEE1DE8AB4E883333D9471E3C939D9E1D1209C74B3017F3AB4mati Cadena_X = 5363659B616EFBBB Valor hash = 00E83D617CA6146D919B6B62ACD11CE7A6143EF40CE0FCDAF633E5CB7D573521 N°_ntentos = 39 ID = 00E83D617CA6146D919B6B62ACD11CE7A6143EF40CE0FCDAF633E5CB7D573521mati Cadena_X = 5363659B616EFC A0 Valor hash = 00904D1189A3121AC06E643EE21FCBE08306CCEAE2A9AE2BF937389CEF076AA8 N°_ntentos = 268 ID = 00904D1189A3121AC06E643EE21FCBE08306CCEAE2A9AE2BF937389CEF076AA8mati Cadena_X = 5363659B616EFC2C Valor hash = 006CED98B767AA8FC8FFD0B4B215E0F9D6CC48997B6E9A8726765A827F523588 N°_ntentos = 152 ID = 006CED98B767AA8FC8FFD0B4B215E0F9D6CC48997B6E9A8726765A827F523588mati Cadena_X = 5363659B616EFBAD Valor hash = 008009FF7C125C7E4E1BFB9E1185B12C9DF6E880786FBBC8D685BD7444DC7977 N°_ntentos = 25 ID = 008009FF7C125C7E4E1BFB9E1185B12C9DF6E880786FBBC8D685BD7444DC7977mati Cadena_X = 5363659B616EFC71 Valor hash = 00EA999B0119F6D68D5EB6DDE35A91F0E4E2C1C84D1E663268DAE302587ADF82 N°_ntentos = 221 ID = 00EA999B0119F6D68D5EB6DDE35A91F0E4E2C1C84D1E663268DAE302587ADF82mati Cadena_X = 5363659B616EFC77 Valor hash = 001E3FB654672CCCB5072F7545ED2F1365CA6E8B175D23E096444F1FEB363BA1 N°_ntentos = 227
b = 8



Nota:
Código generado en bash, no he logrado poner los datos en líneas independientes.