

UNIVERSIDAD REGIONAL AMAZONICA IKIAM

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Materia: Bioinformática

- Ejercicio 1-10-1

```
HP@DESKTOP-ARATL58 MINGW64 ~
$ cd Documents/CSB-master/unix/data/

HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix/data
$ ls
Buzzard2015_about.txt      Marra2014_about.txt      Saavedra2013/
Buzzard2015_data.csv      Marra2014_data.fasta    Saavedra2013_about.txt
Gesquiere2011_about.txt   Pacifici2013_about.txt   miRNA/
Gesquiere2011_data.csv    Pacifici2013_data.csv

HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix/data
$ cd ../

HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix
$ cd sandbox/

HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix/sandbox
$ ls -lh ../data/Marra2014_data.fasta
-rw-r--r-- 1 HP 197121 553K Jan 28  2019 ../data/Marra2014_data.fasta

HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix/sandbox
$ cp ../data/Marra2014_data.fasta my_fila.fasta

HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix/sandbox
$ ls
2022II_gbi6/ 'Papers and reviews'/ c1/ c2/ code2.sh my_fila.fasta

HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix/sandbox
$ |
```

```

MINGW64:/c/Users/HP/Documents/CSB-master/unix/sandbox
GNU nano 6.2 Ejercicio_1-10-1.sh
# ver tamaño del archivo
ls -lh ../data/Marra2014_data.fasta
# ver cuantos isogroup00036 hay!

grep isogroup00036 my_fil.a.fasta | wc -l

# Reemplazar el delimitador con dos espacio y una coma
cat my_fil.a.fasta |tr -s ' ' ', ' > my_fil.a.tmp
mv my_fil.a.tmp my_fil.a.fasta

# Cuantos isogrps hay en el archivo
grep '>' my_fil.a.fasta | cut -d ',' -f 4 |sort |uniq |wc -l

# conting el mayor numero de lectura
grep '>' my_fil.a.fasta | cut -d ',' -f 1,3 | sort -t '=' -k 2 -n -r | head -n 1

[ Read 17 lines ]
^G Help      ^O Write Out ^W Where Is  ^K Cut       ^T Execute   ^C Location
^X Exit      ^R Read File ^\ Replace   ^U Paste     ^J Justify   ^_ Go To Line

```

```

HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix/sandbox
$ nano Ejercicio_1-10-1.sh

HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix/sandbox
$ bash Ejercicio_1-10-1.sh
-rw-r--r-- 1 HP 197121 553K Jan 28  2019 ../data/Marra2014_data.fasta
16
43
>contig00302,numreads=3330

```

- Ejercicio 1-10-2

```
HP@DESKTOP-ARATL58 MINGW64 ~
$ cd Documents/CSB-master/unix/

HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix
$ nano Ejercicio_1-10-2.sh

HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix
$ nano Conteo_Ejercicio_1-10-2.sh

HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix
$ nano Ejercicio_1-10-2.sh
```

```
GNU nano 6.2 Ejercicio_1-10-2.sh
#Cuantas veces los niveles de los individuos 3 y 27 hay!

#Para los individuos 3
cut -f 1 data/Gesquiere2011_data.csv | grep -w 3 | grep -c 3

#Para los individuos 27
cut -f 1 data/Gesquiere2011_data.csv | grep -w 27 | grep -c 27

####

#Pra ello se crea un vector con las IDS del documento
vdocuments=`tail -n +2 data/Gesquiere2011_data.csv | cut -f 1 | uniq `

for x in $vdocuments
do
ids=`bash Conteo_Ejercicio_1-10-2.sh data/Gesquiere2011_data.csv $x`
echo "ID:" $x "conteo:" $ids
done

^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^_ Go To Line
```

```
GNU nano 6.2      Conteo_Ejercicio_1-10-2.sh
#Codigo con variables

cut -f 1 $1| grep -c -w $2

^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify
```

```
HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix
$ bash Ejercicio_1-10-2.sh
61
5
ID: 1 conteo: 10
ID: 2 conteo: 2
ID: 3 conteo: 61
ID: 4 conteo: 46
ID: 5 conteo: 28
ID: 6 conteo: 7
ID: 7 conteo: 5
ID: 8 conteo: 17
ID: 9 conteo: 4
ID: 10 conteo: 21
ID: 11 conteo: 26
ID: 12 conteo: 23
ID: 13 conteo: 16
ID: 14 conteo: 1
ID: 15 conteo: 40
ID: 16 conteo: 31
ID: 17 conteo: 3
ID: 18 conteo: 4
ID: 19 conteo: 3
ID: 20 conteo: 4
ID: 21 conteo: 12
ID: 22 conteo: 5
ID: 23 conteo: 36
ID: 24 conteo: 35
ID: 25 conteo: 35
ID: 26 conteo: 22
ID: 27 conteo: 5
ID: 29 conteo: 33
ID: 30 conteo: 63
ID: 31 conteo: 1
ID: 32 conteo: 3
ID: 33 conteo: 1
ID: 34 conteo: 16
ID: 35 conteo: 5
ID: 36 conteo: 39
ID: 37 conteo: 38
ID: 38 conteo: 1
ID: 39 conteo: 3
ID: 40 conteo: 32
ID: 41 conteo: 53
ID: 42 conteo: 5
ID: 43 conteo: 2
ID: 44 conteo: 56
ID: 45 conteo: 1
```

```
ID: 54 conteo: 22
ID: 55 conteo: 20
ID: 56 conteo: 41
ID: 57 conteo: 46
ID: 58 conteo: 1
ID: 59 conteo: 25
ID: 60 conteo: 51
ID: 61 conteo: 20
ID: 62 conteo: 13
ID: 63 conteo: 35
ID: 64 conteo: 34
ID: 65 conteo: 38
ID: 66 conteo: 20
ID: 67 conteo: 1
ID: 68 conteo: 10
ID: 69 conteo: 22
ID: 70 conteo: 33
ID: 71 conteo: 5
ID: 72 conteo: 2
ID: 73 conteo: 10
ID: 74 conteo: 1
ID: 75 conteo: 15
ID: 76 conteo: 39
ID: 77 conteo: 2
ID: 78 conteo: 29
ID: 79 conteo: 4
ID: 80 conteo: 35
ID: 81 conteo: 1
ID: 82 conteo: 27
ID: 83 conteo: 2
ID: 84 conteo: 11
ID: 85 conteo: 1
ID: 86 conteo: 39
ID: 87 conteo: 18
ID: 88 conteo: 46
ID: 89 conteo: 25
ID: 90 conteo: 24
ID: 91 conteo: 32
ID: 92 conteo: 1
ID: 93 conteo: 7
ID: 94 conteo: 25
ID: 95 conteo: 71
ID: 96 conteo: 17
ID: 97 conteo: 17
ID: 98 conteo: 5
ID: 99 conteo: 2
ID: 100 conteo: 13
ID: 101 conteo: 26
ID: 102 conteo: 15
ID: 103 conteo: 26
ID: 104 conteo: 29
ID: 105 conteo: 6
HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix
```

- Ejercicio 1-10-3

```
HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix
$ cd data/Saavedra2013
```

```
HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix/data/Saavedra2013
$ touch netsize.sh
```

```
HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix/data/Saavedra2013
$ fila='wc -l < n1.txt'
```

```
HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix/data/Saavedra2013
$ echo " el numero de filas y columnas de n1.txt son: $filas, $columnas." >> netsize.txt
```

```
HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix/data/Saavedra2013
$ bash netsize.sh
```

```
HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix/data/Saavedra2013
$ ls
n1.txt    n16.txt  n22.txt  n29.txt  n35.txt  n41.txt  n48.txt  n54.txt  n7.txt
n10.txt   n17.txt  n23.txt  n3.txt   n36.txt  n42.txt  n49.txt  n55.txt  n8.txt
n11.txt   n18.txt  n24.txt  n30.txt  n37.txt  n43.txt  n5.txt   n56.txt  n9.txt
n12.txt   n19.txt  n25.txt  n31.txt  n38.txt  n44.txt  n50.txt  n57.txt  netsize.sh
n13.txt   n2.txt   n26.txt  n32.txt  n39.txt  n45.txt  n51.txt  n58.txt  netsize.txt
n14.txt   n20.txt  n27.txt  n33.txt  n4.txt   n46.txt  n52.txt  n59.txt
n15.txt   n21.txt  n28.txt  n34.txt  n40.txt  n47.txt  n53.txt  n6.txt
```

```
HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix/data/Saavedra2013
$ touch netsize_all.sh
```

```
HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix/data/Saavedra2013
$ for archivo in *.txt;
> do
> numero_fila='cat $archivo | wc -l'
> numero_columnas='head -n 1 $archivo | tr -d " " | tr -d "\n" | wc -c'
> echo "El numero de filas y columnas de $archivo son: $numero_fila, $numero_columna." >> netsize_all.txt
> done
```

```
HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix/data/Saavedra2013
$ bash netsize_all.sh
```

```
HP@DESKTOP-ARATL58 MINGW64 ~/Documents/CSB-master/unix/data/Saavedra2013
$ ls
n1.txt    n16.txt  n22.txt  n29.txt  n35.txt  n41.txt  n48.txt  n54.txt  n7.txt
n10.txt   n17.txt  n23.txt  n3.txt   n36.txt  n42.txt  n49.txt  n55.txt  n8.txt
n11.txt   n18.txt  n24.txt  n30.txt  n37.txt  n43.txt  n5.txt   n56.txt  n9.txt
n12.txt   n19.txt  n25.txt  n31.txt  n38.txt  n44.txt  n50.txt  n57.txt  netsize.sh
n13.txt   n2.txt   n26.txt  n32.txt  n39.txt  n45.txt  n51.txt  n58.txt  netsize.txt
n14.txt   n20.txt  n27.txt  n33.txt  n4.txt   n46.txt  n52.txt  n59.txt  netsize_all
n15.txt   n21.txt  n28.txt  n34.txt  n40.txt  n47.txt  n53.txt  n6.txt   netsize_all.txt
```