Parte 1.10.1

1. Folder creation, copy and paste the fasta

```
ander@DESKTOP-OAKI6PR MINGW64 ~
$ cp Documents/CSB-master/unix/sandbox/Marra2014_data.fasta Documents/2022II_gbi
6/TC3/my_file.fasta

ander@DESKTOP-OAKI6PR MINGW64 ~
$ cd Documents/2022II_gbi6/TC3

ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3 (main)
$ mkdir CSB/unix/sandbox
mkdir: cannot create directory ‘CSB/unix/sandbox’: No such file or directory

ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3 (main)
$ mkdir /CSB/unix/sandbox
mkdir: cannot create directory ‘/CSB/unix/sandbox’: No such file or directory

ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3 (main)
$ mkdir (CSB/unix/sandbox)
bash: syntax error near unexpected token `CSB/unix/sandbox'

ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3 (main)
$ mkdir (CSB / unix / sandbox)
bash: syntax error near unexpected token `CSB'

ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3 (main)
$ mkdir CSB

ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3 (main)
$ cd CSB

ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB (main)
$ mkdir unix

ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB (main)
$ cd unix

ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB/unix (main)
$ mkdir sandbox

ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB/unix (main)
$ cd ..

ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB (main)
$ cd ..

ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3 (main)
$ mv my_file.fasta CSB/unix/sandbox/my_file.fasta
```

2.
3. Size of fasta

```
ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB/unix/sandbox (main)
$ wc my_file.fasta
  9515  13335 566026 my_file.fasta
```

Another size of fasta

```
ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB/unix/sandbox (main
)
$ ls -lh my_file.fasta
-rw-r--r-- 1 ander 197609 553K Nov 15 17:39 my_file.fasta
```

4. Classified isogroup00036

```
ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB/unix/sandbox (main
)
$ grep -c isogroup00036 my_file.fasta
16
```

5. Use of tr

```
ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB/unix/sandbox (main)
$ cat my_file.fasta | tr "  " "," | head -n 10
>contig00001,,length=527,,numreads=2,,gene=isogroup00001,,status=it_thresh
ATCCTAGCTACTCTGGAGACTGAGGATTGAAGTTCAAAGTCAGCTCAAGCAAGAGATTTG
TTTACAATTAACCCACAAAAGGCTGTTACTGAAGGTGTGGCTTAAGTGTCAGAGCAACAG
CTATGAGTGGAGGAATTTTCTATTACAATATAATTTCATCTCTGGTAAATTGACCAATTA
ACTGGAACTTTTTCCAACTGAAATAAATGGTAAACTTTTTATCCACCATTCTGCCATCTG
ACTCACAAAGACCCATGGGAATGGGTGATGAAATCCAACATGCTTCTTTGTAGCAAAAAT
AAATAAAATCCCCAGAAGGGTGAGGTAAATGGAAAACTCCAAACTCGCCCCTCAGGTGGG
TGTAATTTACCCAAGTCTGAGAGGAGGCAGAGTTTTTCCCAATGGACTTTGGTTAAGTGA
GATATGCTGGTCTGTAGAAGGAGGGAGTTCTAGGAAAACAGACACTTAAGTAGGGCCGAA
CTAAAAATTGTATCAGTCAGATCTTCATGTGAAGTCCTGTGTGCCCA
```

6. Unique isogroups

```
ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB/unix/sandbox (main)
$ grep '>' my_file.fasta | tr -s " " "," | cut -d ',' -f 4 | uniq | wc -l
43
```

7. The highest number

```
ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB/unix/sandbox (main)
$ grep '>' my_file.fasta | tr -s " " "," | cut -d ',' -f 1,3 | sort -t '=' -k 2 -n -r | head -
n 1
>contig00302,numreads=3330
```

All answers realized with nano

```
ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB/unix/sandbox (main)
$ bash my_file.sh
Respuesta a la pregunta 3

Tamaño en carácteres
566026 my_file.fasta

Tamaño en palabras
13335 my_file.fasta

Tamaño en lineas
9515 my_file.fasta

Tamaño en bites
-rw-r--r-- 1 ander 197609 553K Nov 15 17:39 my_file.fasta

Respuesta a la pregunta 4
Classified isogroup00036
16

Respuesta a la pregunta 5
>contig00001..length=527..numreads=2..gene=isogroup00001..status=it_thresh
ATCCTAGCTACTCTGGAGACTGAGGATTGAAGTTCAAAGTCAGCTCAAGCAAGAGATTTG
TTTACAATTAACCCACAAAAGGCTGTTACTGAAGGTGTGGCTTAAGTGTCAGAGCAACAG
CTATGAGTGGAGGAATTTTCTATTACAATATAATTTCATCTCTGGTAAATTGACCAATTA

Respuesta a la pregunta 6
Uso del tr
43

Respuesta a la pregunta 7
>contig00302,numreads=3330

Primera parte finalizado con exito
```

Parte 1.10.2

1. Levels of individuals 3 and 27 recorded

```
ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB/unix/data (main)
$ cut -f 1 Gesquiere2011_data.csv | grep -c -w 3
61

ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB/unix/data (main)
$ cut -f 1 Gesquiere2011_data.csv | grep -c -w 27
5
```

2. Write a sript

```
ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB/unix/data (main)
$ bash literal2.sh Gesquiere2011_data.csv 27
Respuesta al literal 2

5

ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB/unix/data (main)
$ bash literal2.sh Gesquiere2011_data.csv 3
Respuesta al literal 2

61
```

Nano

```
  GNU nano 6.4
echo "Respuesta al literal 2"
echo " "
cut -f 1 $1 | grep -c -w $2
```

3. Write a script using -for

```
ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2C
$ bash literal3.sh | head -n 10
Id: 1 Counts: 10
Id: 2 Counts: 2
Id: 3 Counts: 61
Id: 4 Counts: 46
Id: 5 Counts: 28
Id: 6 Counts: 7
Id: 7 Counts: 5
Id: 8 Counts: 17
Id: 9 Counts: 4
Id: 10 Counts: 21
```

nano

```
  GNU nano 6.4                                literal3.sh
myIDS=`tail -n +2 Gesquiere2011_data.csv |cut -f 1 | sort -n | uniq`
for id in $myIDS
do
        mycounts=`bash literal2_1.sh Gesquiere2011_data.csv $id`
        echo "Id:" $id "Counts:" $mycounts
done
```

Parte 1.10.3

1. Write a script

   Answer

```
ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB/unix/data (main)
$ cat netsize.txt
Numero de fila
97

Numero de columna
80
```

   Nano

```
  GNU nano 6.4
#Numero de fila
cat $1 | wc -l > netsize.txt

#Numero de columnas
head -n 1 $1 | wc -w >> netsize.txt
```

2. Write a script

   Answer

```
$ cat netsize_all.txt | head -n 15
97
80
Saavedra2013/n1.txt
14
20
Saavedra2013/n10.txt
270
91
Saavedra2013/n11.txt
7
72
Saavedra2013/n12.txt
61
17
Saavedra2013/n13.txt
```

   Nano

```
  GNU nano 6.4                    netsizeall.sh
for file in Saavedra2013/*.txt
do

        fila= cat $file | wc -l >> netsize_all.txt
        columna= head -n 1 $file | wc -w >> netsize_all.txt
        echo $file $fila $columna>> netsize_all.txt

done
```

3. Larger rows

```
Saavedra2013/n55.txt
110
207
```

   Larger column

```
Saavedra2013/n57.txt
678
90
```

Intento fallido xd

```
  GNU nano 6.4                          netsize_LyS.sh
echo "La fila mas larga"
echo " "
bash netsizeall.sh | sort -n -r -k 2 | head -n 1
echo " "
echo "La columna mas larga"
bash netsizeall.sh | sort -n -r -k 3 | head -n 1
```

Parte 10.4

1. Write a script

```
ander@DESKTOP-OAKI6PR MINGW64 ~/Documents/2022II_gbi6/TC3/CSB/unix/data (ma
$ bash Buzzard.sh Buzzard2015_data.csv 7
Nombre de la columna
biomass

Valores distintos de la columna
285

Valor minimo
1.048466198

Valor maximo
14897.29471
Fue dificil pero se trato de lograrlo
fin del comunicado xd
```

Nano

```
  GNU nano 6.4                            Buzzard.sh
echo "Nombre de la columna"
cut -d ',' -f $2 $1 | head -n 1
echo " "
echo "Valores distintos de la columna"
cut -d ',' -f $2 $1 | tail -n +2 | sort | uniq | wc -l
echo " "
echo "Valor minimo "
cut -d ',' -f $2 $1 | tail -n +2 | sort -n | head -n 1
echo " "
echo "Valor maximo"
cut -d ',' -f $2 $1 | tail -n +2 | sort -n | tail -n 1

echo "Fue dificil, pero se trato de lograrlo"
echo "fin del comunicado xd"
```