

ex1.

Use cat and wc -l to counting the number of rows

```
nlines=$(cat $filename | wc -l)
```

Use while to loop

```
while read line; do
```

```
...
```

```
done < $filename
```

Use wc -w to counting the number of words

```
nwords=$(echo $line | wc -w)
```

Use -gt to comparing

```
if [ $nwords -gt $max ]; then
```

```
    max=$nwords
```

```
fi
```

ex2.

1&2. Use awk to skip the first line and use sort -k (num) to sort by column

```
awk 'NR>1' $orgfile | sort -n -k 1 $orgfile >$sortfile_p
```

3.

Use awk to get every line's first word.

```
p=$(awk -F ' ' '{print $1}' $filename)
```

Use if-test to get the number of the input word.

```
for line in $p; do
```

```
    if [ $line = $s ]; then
```

```
        let num=num+1
```

```
    fi
```

```
done
```

4.

Use unip to deduplication and use tr to capitalize

```
cat $orgfile | awk -F " " '{print $1}' | sort | uniq | tr '[a-z]' '[A-Z]' > $outfile
```

ex3.

Core code:

```
if [ $line -eq 1 ]; then
    echo "$a " >>$newname
elif [ $line -eq 2 ]; then
    echo "$a $b " >>$newname
else
    echo -e "$a $b |c" >>$newname
    while [ $i -le $line ]; do
        let sum=$a+$b
        let b=$a
        let a=$sum
        echo -e "$sum |c"
        let i=$i+1
    done >>$newname
    echo -e "|n" >>$newname
fi
```