Experiment 6

25th March 2019

Aim: To write and execute bash scripts.

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1. Write a shell script that displays a special listing showing the permissions, size filename and last modification time of filename supplied as arguments. Provide suitable headers using the printf command.

editor===

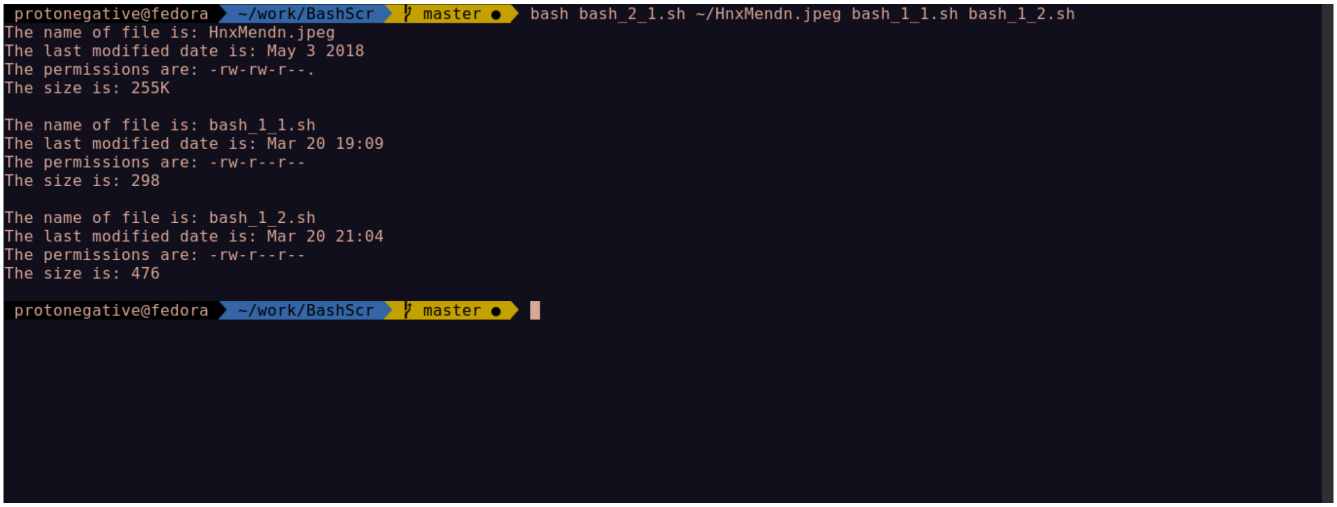
```
if [[ $# -eq 0 ]]
then
    echo "No file specified as an argument"
    exit
fi
for file in $*
do
    if [[ !(-a $file) ]]
    then
        echo "Enter a valid files as arguments"
        exit
    fi
done
for file in $*
do
    NAME=`basename $file`
    PERMS=`ls -lah $file | awk -F " " '{print $1}'`
    SIZE=`ls -lah $file | awk -F " " '{print $5}'`
    DATE=`ls -lah $file | awk -F " " '{print $6 " " $7 " "
$8 }'`
```

```
    printf "The name of file is: $NAME\nThe last modified
date is: $DATE"
    printf "\nThe permissions are: $PERMS\nThe size is:
$SIZE\n\n"

done
```

==end

Output:



```
protonegative@fedora  ~/work/BashScr  ᚴ master ●  bash bash_2_1.sh ~/HnxMendn.jpeg bash_1_1.sh bash_1_2.sh
The name of file is: HnxMendn.jpeg
The last modified date is: May 3 2018
The permissions are: -rw-rw-r--.
The size is: 255K

The name of file is: bash_1_1.sh
The last modified date is: Mar 20 19:09
The permissions are: -rw-r--r--
The size is: 298

The name of file is: bash_1_2.sh
The last modified date is: Mar 20 21:04
The permissions are: -rw-r--r--
The size is: 476

protonegative@fedora  ~/work/BashScr  ᚴ master ● 
```

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2. Write a script that compares two directories dir1 and dir2(supplied as arguments) and copies to dir1 from dir2 every file that is not present in dir1.

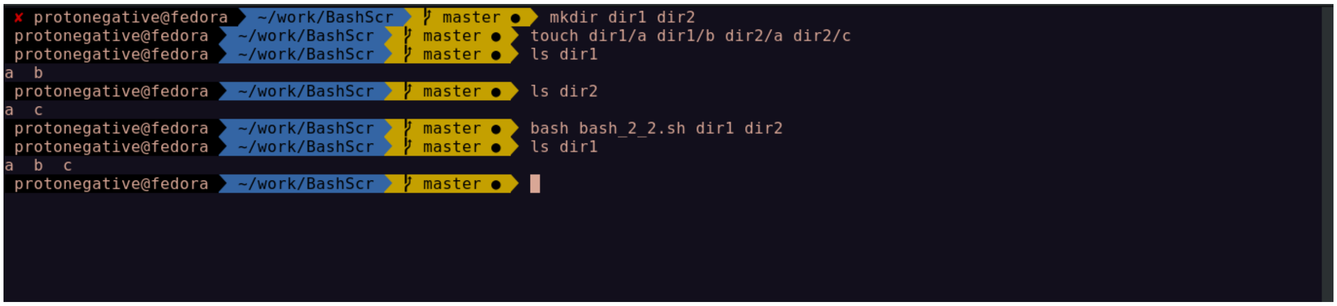
editor==

```
if [[ $# -ne 2 ]]
then
    echo "Enter two directories as argument"
    exit
fi

if [[ !(-d $1 && -d $2) ]]
```

```
then
    echo "Enter valid directories"
    exit
fi

NAME2=`basename $2`
diff $1 $2 | grep -w "$NAME2" | awk -F ": " '{print $2}' >>
b.temp
while read line
do
    cp "$2/$line" $1
done < b.temp
rm b.temp
```

===end

Output:



```
x protonegative@fedora  ~/work/BashScr   master ●  mkdir dir1 dir2
 protonegative@fedora  ~/work/BashScr   master ●  touch dir1/a dir1/b dir2/a dir2/c
 protonegative@fedora  ~/work/BashScr   master ●  ls dir1
a  b
 protonegative@fedora  ~/work/BashScr   master ●  ls dir2
a  c
 protonegative@fedora  ~/work/BashScr   master ●  bash bash_2_2.sh dir1 dir2
 protonegative@fedora  ~/work/BashScr   master ●  ls dir1
a  b  c
 protonegative@fedora  ~/work/BashScr   master ●  
```

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3. Write a shell script that accepts two file names as arguments, checks if the permissions for these files are identical and if the permissions are identical,output common permissions and otherwise output each file name followed by its permissions.

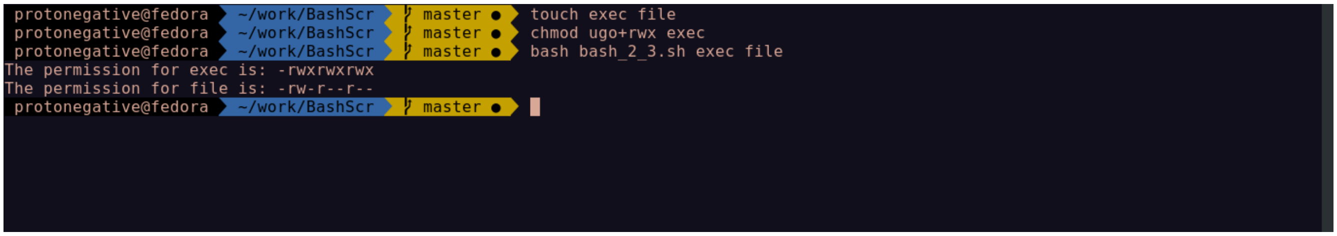
editor===

```
if [[ $# -ne 2 ]]
then
    echo "Enter two files as argument"
        exit
```

```
fi

if [[ !(-a $1 && -a $2) ]]
then
    echo "Enter valid files"
        exit
fi

PERMS1=`ls -lah $1 | awk -F " " '{print $1}'`
PERMS2=`ls -lah $2 | awk -F " " '{print $1}'`

if [[ $PERMS1 == $PERMS2  ]]
then
    echo "The common permission is: $PERMS1"
else
    echo "The permission for $1 is: $PERMS1"
    echo "The permission for $2 is: $PERMS2"
fi
```

==end

Output:



```
 protonegative@fedora  ~/work/BashScr  master ●  touch exec file
 protonegative@fedora  ~/work/BashScr  master ●  chmod ugo+rwx exec
 protonegative@fedora  ~/work/BashScr  master ●  bash bash_2_3.sh exec file
The permission for exec is: -rwxrwxrwx
The permission for file is: -rw-r--r--
 protonegative@fedora  ~/work/BashScr  master ● 
```

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4. Write a shell script which receives two file names as arguments. It should check whether the two file contents are same or not. If they are same then second file should be deleted.

editor===

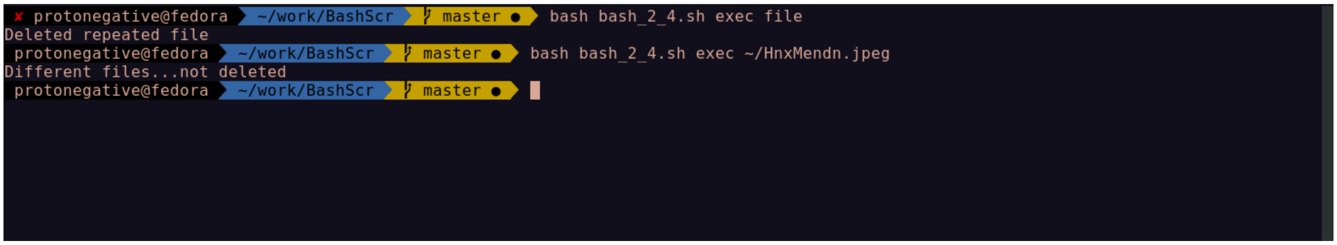
```
if [[ $# -ne 2 ]]
then
    echo "Enter two files as argument"
        exit
fi

if [[ !(-f $2 && -f $2) ]]
then
    echo "Enter valid files"
        exit
fi

(cmp -s $1 $2) && (rm $2; echo "Deleted repeated file") ||
(echo "Different files...not deleted")
```

==end

Output:



```
✘ protonegative@fedora  ~/work/BashScr   master ●  bash bash_2_4.sh exec file
Deleted repeated file
 protonegative@fedora  ~/work/BashScr   master ●  bash bash_2_4.sh exec ~/HnxMendn.jpeg
Different files...not deleted
 protonegative@fedora  ~/work/BashScr   master ●  █
```

----

5. Write a shell script that, given a file name as the argument will count vowels, blank spaces, characters, number of line and symbols.

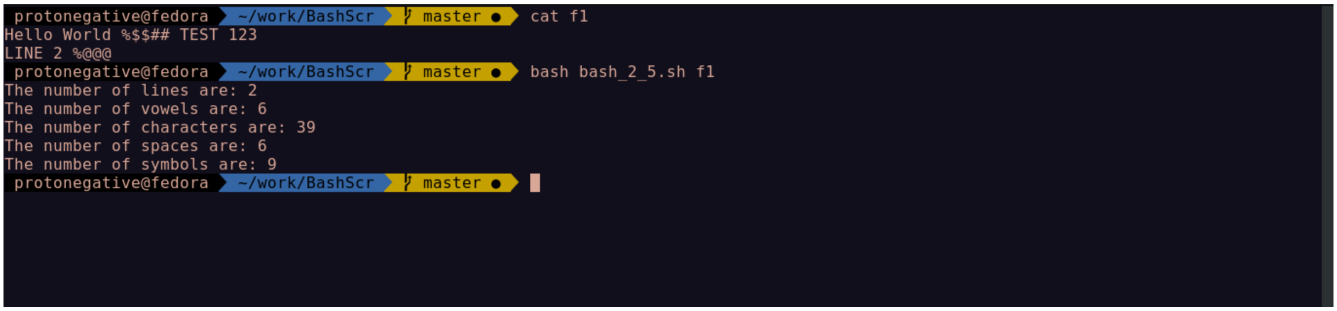
editor===

```
if [[ $# -ne 1 ]]
then
    echo "Enter file as argument"
        exit
fi
```

```
if [[ !(-a $1) ]]
then
    echo "Enter valid file"
        exit
fi
SYM=0
BS=`grep -o ' ' $1 | wc -l`
CHA=`wc -c $1 | awk '{print $1}'`
V=0
L=`wc -l $1 | awk '{print $1}'`
while read -n1 c
do
    if [[ $c == *['!'@#\$%^\&*()_+]*  ]]
    then
        ((SYM++))
    elif [[ $c == *[aAeEiIoOuU]*  ]]
    then
        ((V++))
    fi
done < "$1"
echo "The number of lines are: $L"
echo "The number of vowels are: $V"
echo "The number of characters are: $CHA"
echo "The number of spaces are: $BS"
echo "The number of symbols are: $SYM"
```

==end

Output:



```
 protonegative@fedora  ~/work/BashScr  ⎇ master ●  cat f1
Hello World %$$## TEST 123
LINE 2 %@@@
 protonegative@fedora  ~/work/BashScr  ⎇ master ●  bash bash_2_5.sh f1
The number of lines are: 2
The number of vowels are: 6
The number of characters are: 39
The number of spaces are: 6
The number of symbols are: 9
 protonegative@fedora  ~/work/BashScr  ⎇ master ● 
```

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6. Write a shell script that will take an input file and remove identical lines.

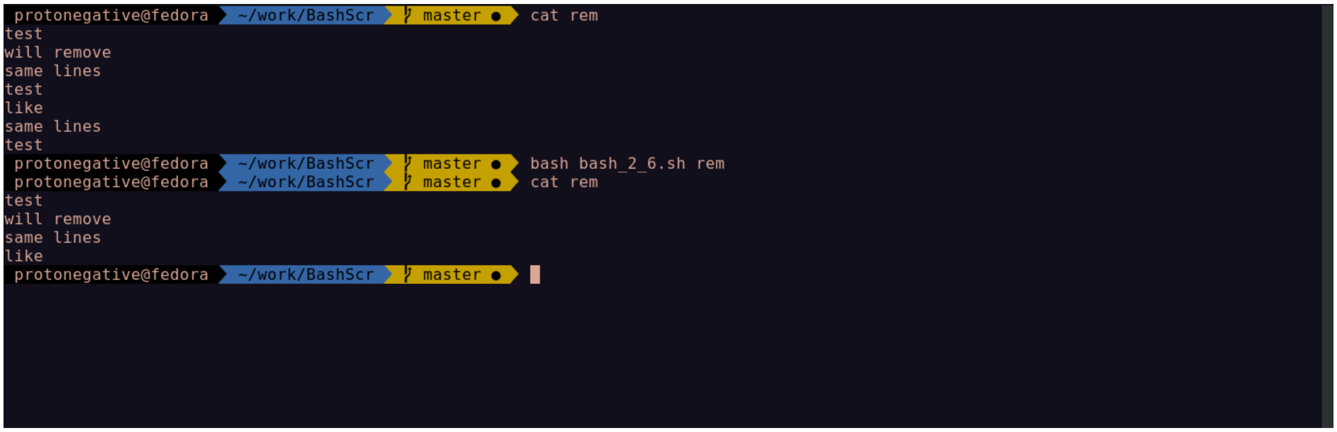
```
editor=========================================================

if [[ $# -ne 1 ]]
then
    echo "Enter file as argument"
        exit
fi

if [[ !(-a $1) ]]
then
    echo "Enter valid file"
        exit
fi
awk '!a[$0]++' $1 >> b.temp
rm $1
mv b.temp $1

============================================================end
```

Output:



```
 protonegative@fedora  ~/work/BashScr  master ●  cat rem
test
will remove
same lines
test
like
same lines
test
 protonegative@fedora  ~/work/BashScr  master ●  bash bash_2_6.sh rem
 protonegative@fedora  ~/work/BashScr  master ●  cat rem
test
will remove
same lines
like
 protonegative@fedora  ~/work/BashScr  master ●
```

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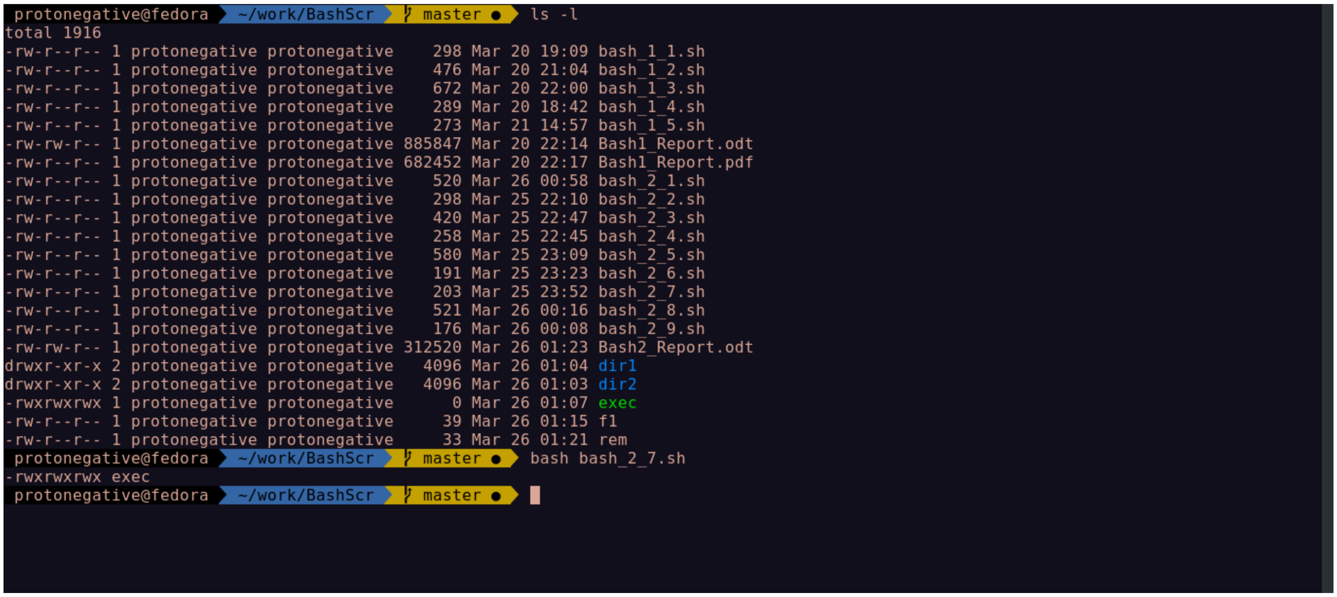
7. Write a shell script that displays a list of all the files in the current directory to which the user has read, write and execute permissions.

editor===

```
ls -lAh $PWD | awk -F " " '{print $1 " " $9}' > b.temp
while read l
do
    PERM=`echo $1 | awk '{print $1}'`
    USRPERM=${PERM:7:3}
    if [[ $USRPERM == "rwx"  ]]
    then
        echo "$1"
    fi
done < b.temp
rm b.temp
```

===end

Output:



```
protonegative@fedora  ~/work/BashScr  master ●  ls -l
total 1916
-rw-r--r-- 1 protonegative protonegative    298 Mar 20 19:09 bash_1_1.sh
-rw-r--r-- 1 protonegative protonegative    476 Mar 20 21:04 bash_1_2.sh
-rw-r--r-- 1 protonegative protonegative    672 Mar 20 22:00 bash_1_3.sh
-rw-r--r-- 1 protonegative protonegative    289 Mar 20 18:42 bash_1_4.sh
-rw-r--r-- 1 protonegative protonegative    273 Mar 21 14:57 bash_1_5.sh
-rw-rw-r-- 1 protonegative protonegative 885847 Mar 20 22:14 Bash1_Report.odt
-rw-r--r-- 1 protonegative protonegative 682452 Mar 20 22:17 Bash1_Report.pdf
-rw-r--r-- 1 protonegative protonegative    520 Mar 26 00:58 bash_2_1.sh
-rw-r--r-- 1 protonegative protonegative    298 Mar 25 22:10 bash_2_2.sh
-rw-r--r-- 1 protonegative protonegative    420 Mar 25 22:47 bash_2_3.sh
-rw-r--r-- 1 protonegative protonegative    258 Mar 25 22:45 bash_2_4.sh
-rw-r--r-- 1 protonegative protonegative    580 Mar 25 23:09 bash_2_5.sh
-rw-r--r-- 1 protonegative protonegative    191 Mar 25 23:23 bash_2_6.sh
-rw-r--r-- 1 protonegative protonegative    203 Mar 25 23:52 bash_2_7.sh
-rw-r--r-- 1 protonegative protonegative    521 Mar 26 00:16 bash_2_8.sh
-rw-r--r-- 1 protonegative protonegative    176 Mar 26 00:08 bash_2_9.sh
-rw-rw-r-- 1 protonegative protonegative 312520 Mar 26 01:23 Bash2_Report.odt
drwxr-xr-x 2 protonegative protonegative   4096 Mar 26 01:04 dir1
drwxr-xr-x 2 protonegative protonegative   4096 Mar 26 01:03 dir2
-rwxrwxrwx 1 protonegative protonegative      0 Mar 26 01:07 exec
-rw-r--r-- 1 protonegative protonegative     39 Mar 26 01:15 f1
-rw-r--r-- 1 protonegative protonegative     33 Mar 26 01:21 rem
protonegative@fedora  ~/work/BashScr  master ●  bash bash_2_7.sh
-rwxrwxrwx exec
protonegative@fedora  ~/work/BashScr  master ●  
```

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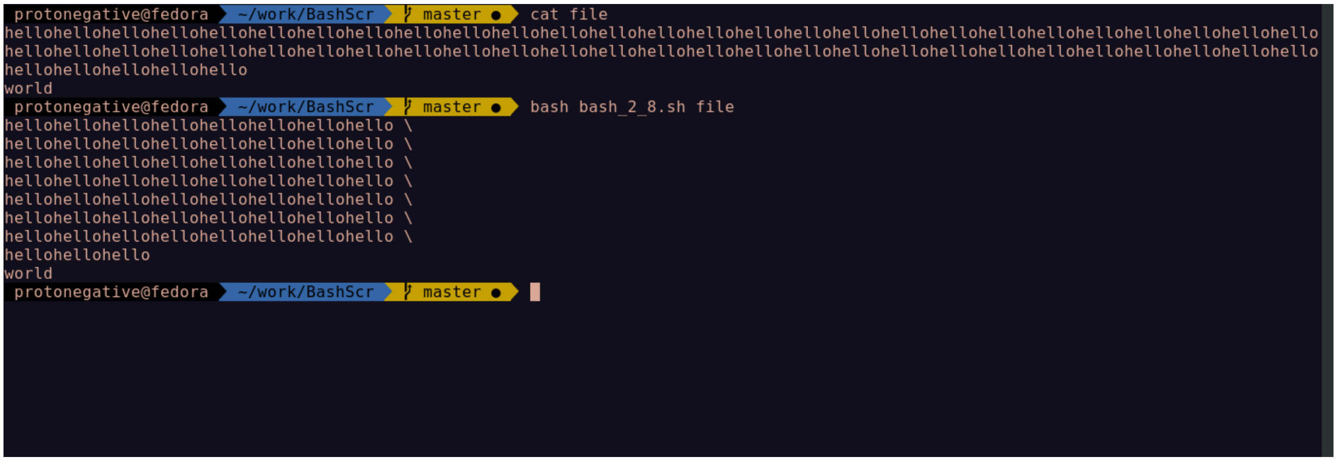
8. Write a shell script that folds long lines into 40 columns. Thus any line that exceeds 40 characters must be broken after 40th ; a \ is to be appended as the indication of folding and the processing is to be continued with the residue. The input is to be through a text file created by the user.

editor===

```
if [[ $# -ne 1 ]]
then
    echo "Enter file as argument"
        exit
fi

if [[ !(-a $1) ]]
then
    echo "Enter valid file"
        exit
fi

n=`wc -l $1 | cut -d " " -f 1`
i=1

while [ $i -le $n ]
do
    line=`sed -n "$i p" $1`
    cc=`echo $line | wc -c | cut -d " " -f 1`
    while [ $cc -ge 40 ]
    do
        ext=`echo $line | cut -c 41-`
        line=`echo $line | cut -c 1-40`
        echo "$line \\"
        line=$ext
        cc=`echo $ext | wc -c | cut -d " " -f 1`
    done
echo "$line"
i=`expr $i + 1`
done
```

===end

Output:



```
 protonegative@fedora  ~/work/BashScr  master ●  cat file
hellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohello
hellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohellohello
hellohellohellohellohello
world
 protonegative@fedora  ~/work/BashScr  master ●  bash bash_2_8.sh file
hellohellohellohellohellohellohellohello \
hellohellohellohellohellohellohellohello \
hellohellohellohellohellohellohellohello \
hellohellohellohellohellohellohellohello \
hellohellohellohellohellohellohellohello \
hellohellohellohellohellohellohellohello \
hellohellohellohellohellohellohellohello \
hellohellohello
world
 protonegative@fedora  ~/work/BashScr  master ● 
```

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9. Write a shell script to delete all lines containing a specific word in one or more file supplied as argument to it.

Editor===

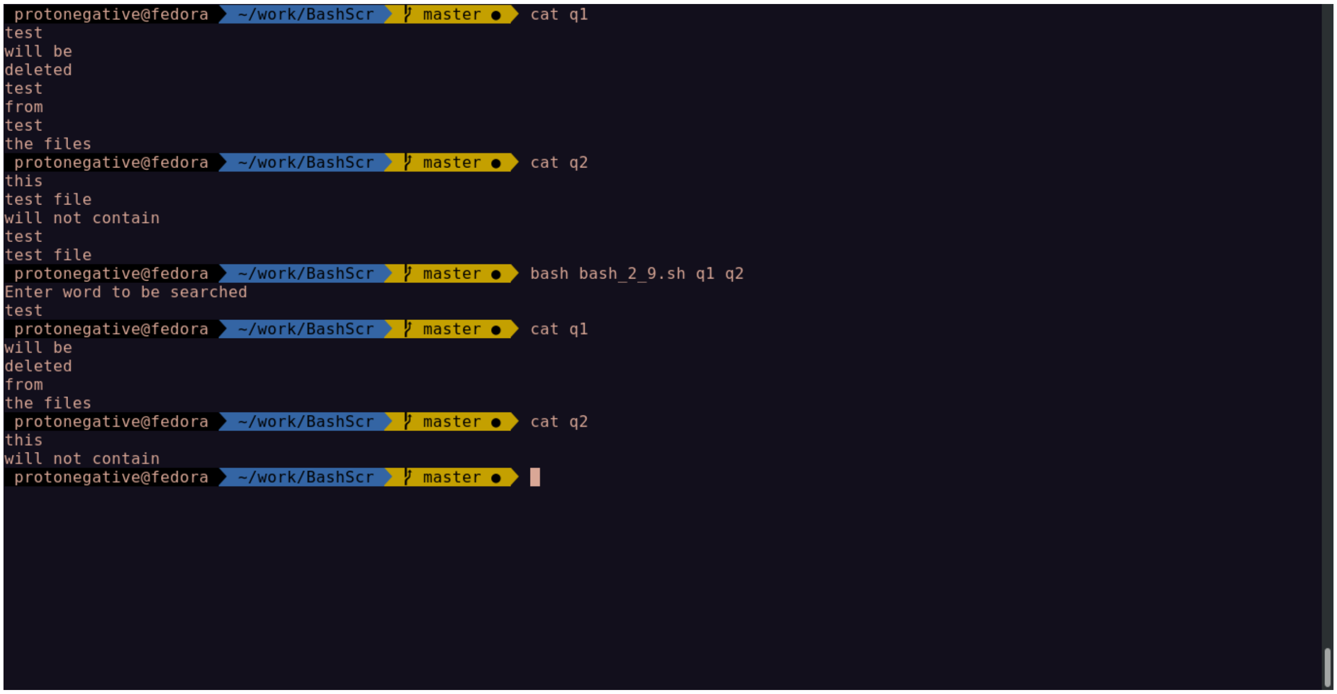
```
if [ $# -eq 0 ]
then
    echo "Enter atleast one file"
exit
fi

echo "Enter word to be searched"
read word

for file in $*
do
    sed "/$word/d" $file > b.temp
    mv b.temp $file
done
```

===end

Output:



```
 protonegative@fedora  ~/work/BashScr  master ●  cat q1
test
will be
deleted
test
from
test
the files
 protonegative@fedora  ~/work/BashScr  master ●  cat q2
this
test file
will not contain
test
test file
 protonegative@fedora  ~/work/BashScr  master ●  bash bash_2_9.sh q1 q2
Enter word to be searched
test
 protonegative@fedora  ~/work/BashScr  master ●  cat q1
will be
deleted
from
the files
 protonegative@fedora  ~/work/BashScr  master ●  cat q2
this
will not contain
 protonegative@fedora  ~/work/BashScr  master ● 
```

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eof
