

Shell program to print reverse of command line argument

```
for i in $*
do
echo $i>>a
done
c=$#
while [ $c -gt 0 ]
do
rev=`head -$c a|tail -1`
echo $rev
c=`expr $c - 1`
done
rm a
```

Output

```
[root@localhost ~]# sh cmdrev 1 2 3 a b c
c
b
a
3
2
1
```

#Shell program to find factorial of given number

```
echo enter the number
read n
fact=1
while [ $n -ge 1 ]
do
fact=`expr $fact '*' $n`
n=`expr $n - 1`
done
echo $fact
```

Output

```
[root@localhost ~]# sh fact
enter the number
6
720
```

```
[root@localhost ~]# sh fact
enter the number
5
120
```

Shell program to perform arithmetic operation using case statement

```
echo enter any two numbers
read a b
i=1
while [ $i -le 50 ]
do
echo "1.Addition"
echo "2.Substraction"
echo "3.Multiplication"
echo "4.Division"
echo "5.Exit"
echo enter your choice
read ch
case $ch in
1)c=`expr $a + $b`
  echo The addition is $c
  ;;
2)c=`expr $a - $b`
  echo The substraction is $c
  ;;
3)c=`expr $a '*' $b`
  echo The multiplication is $c
  ;;
4)c=`expr $a / $b`
  echo The division is $c
  ;;
5)exit
  ;;
*) echo "Enter proper value"
  ;;
esac
i=`expr $i + 1`
done
```

Output

```
[root@localhost ~]# sh arithcase
enter any two numbers
3 5
1.Addition
2.Substraction
3.Multiplication
4.Division
5.Exit
enter your choice
1
The addition is 8
1.Addition
2.Substraction
3.Multiplication
4.Division
5.Exit
enter your choice
3
The multiplication is 15
1.Addition
2.Substraction
3.Multiplication
4.Division
5.Exit
enter your choice
7
Enter proper value
1.Addition
2.Substraction
3.Multiplication
4.Division
5.Exit
enter your choice
5
```

Check given string is palindrome or not

```
clear
echo enter the string
read str
l=`echo $str|wc -c`
while [ $l -gt 0 ]
do
t=`echo $str|cut -c$l`
rev=`echo $rev$t`
echo $rev
l=`expr $l - 1`
done
echo reverse string is $rev
if [ $str == $rev ]
then
echo string is palindrom
else
echo string is not palindrom
fi
```

Output

```
[root@localhost ~]# sh palstr
enter the string
nitin
```

```
n
ni
nit
niti
nitin
reverse string is nitin
string is palindrome
```

```
[root@localhost ~]# sh palstr
enter the string
111
```

```
1
11
111
reverse string is 111
```

string is palindrom

Shell program to find sum of digit of given

```
echo "Enter the number-"
read n
sum=0
while [ $n -gt 0 ]
do
    r=`expr $n % 10`
    sum=`expr $sum + $r`
    n=`expr $n / 10`
done
echo $sum
```

Output

```
[root@localhost amit]# sh SumOfDigit
Enter the number-
132
6
```

```
[root@localhost amit]# sh SumOfDigit
Enter the number-
333
9
```

Write and execute a LINUX shell program that presents multiple choices question, gets the user's answer and reports back whether it is right or wrong. Finally it shall display the score

```
clear
echo Questions:
sc=0

echo "1 : Which Is The Capital Of India ? "
echo " Options : a) Delhi b) Mumbai c) Nagpur d) Dhule"
read key

if test $key = "a"
then
echo "Your Answer Is Correct "
sc=`expr $sc + 10`
else
echo "Your Answer Is Incorrect "
fi

echo "2 : Which Is The Largest River In World ? "
echo " Options : a) Ganga b) Yamuna c)Nile d)Panzra"
read key

if test $key = "c"
then
echo "Your Answer Is Correct "
sc=`expr $sc + 10`
else
echo "Your Answer Is Incorrect "
fi

echo "3 : How Many Keywords In C Language ? "
echo " Options : a) 40 b) 32 c) 33 d)34 "
read key

if test $key = "b"
then
echo " Your Answer Is Correct "
sc=`expr $sc + 10`
else
```

```
echo " Your Answer Is Incorrect "  
fi
```

```
if [ $sc -gt 0 ]  
then  
echo "Congratulation"  
echo "Your Score : $sc "  
else  
echo "Sorry"  
echo "Your Score : $sc"  
fi
```

Output

```
[root@localhost amit]# sh queans
```

Questions:

1 : Which Is The Capital Of India ?

Options : a) Delhi b) Mumbai c) Nagpur d) Dhule

a

Your Answer Is Correct

2 : Which Is The Largest River In World ?

Options : a) Ganga b) Yamuna c) Nile d) Panzra

b

Your Answer Is Incorrect

3 : How Many Keywords In C Language ?

Options : a) 40 b) 32 c) 33 d) 34

b

Your Answer Is Correct

Congratulation

Your Score : 20

Linux shell program which simulate at least 5 DOS command

```
echo "dir"
echo "date"
echo "del"
echo "cls"
echo "md"
echo "exit"

while [ 1 ]          # While condition is always true if write 1
do
echo -e "C:\>"
read n
case $n in
dir) ls ;;
date) date ;;
del) echo -e "\n\n Enter the file name which you want to delete"
read fn
rm -i $fn
ls ;;
cls) clear ;;
md) echo -e "\n\n Give new directory name"
read d
mkdir $d
ls ;;
exit) exit ;;
*) echo Entered Wrong Command
esac
done
```

Output

```
[root@localhost ~]# sh doscmd
dir
date
del
cls
md
exit
```

```
C:\>
date
Wed Oct 10 21:09:26 IST 2012
C:\>
md
```

Give new directory name
Amit

```
C:\>
del
```

Enter the file name which you want to delete
Mca

```
C:\>
Dir
```

amit	demo1	lll	primeno
amit1	Desktop	ls	printperonly
ASD	f1	nilesh	tal
atr	f2	odd	temp

Write shell program get rollno, name and marks of different three file and calculate total and average in proper format

```
i=1
tot=0
n=`cat f1 | wc -l `
echo -e "\n-----MARKSHEET-----"
echo -e "\n\tRno\tName\tMark1\tMark2\tMark3\tTotal\tAvg\t"
while [ $i -le $n ]
do
rn=`cat f1 | head -$i | tail -1 | cut -d " " -f1 `
nm=`cat f2 | head -$i | tail -1 | cut -d " " -f2 `
m1=`cat f3 | head -$i | tail -1 | cut -d " " -f2 `
m2=`cat f3 | head -$i | tail -1 | cut -d " " -f3 `
m3=`cat f3 | head -$i | tail -1 | cut -d " " -f4 `
tot=`expr $m1 + $m2 + $m3 `
avg=`expr $tot / 3 `
echo -e "\n\t${rn}\t${nm}\t${m1}\t${m2}\t${m3}\t${tot}\t${avg}"
i=`expr $i + 1 `
done
```

Out put

```
[root@localhost amit]# cat f1
10
20
30
```

```
[root@localhost amit]# cat f2
10 rahul
20 manoj
30 rani
```

```
[root@localhost amit]# cat f3
10 40 50 60
20 37 56 78
30 67 89 98
```

```
[root@localhost amit]# sh marksheet
```

```
-----MARKSHEET-----
```

Rno	Name	Mark1	Mark2	Mark3	Total	Avg
10	rahul	40	50	60	150	50
20	manoj	37	56	78	171	57
30	rani	67	89	98	254	84

write and execute a LINUX shell program which counts number of words from each file of the current directory and create a summary file with following details

Files with words <=100

Files with words >100 and <500

```
clear
echo "Files With Words <= 100 Are" >> sumary
echo
for i in *
do
if [ -f $i ]
then
words=`cat $i | wc -w`
if [ $words -le 100 ]
then
echo $i      $words >> sumary
fi
fi
done
echo
echo "Files With Words > 100 & < 500 Are" >> sumary
echo
for i in *
do
if [ -f $i ]
then
words=`cat $i | wc -w`
if [ $words -gt 100 -a $words -lt 500 ]
then
echo $i      $words >> sumary
fi
fi
done
```

Output

```
[root@localhost amit]# sh CntWordFile
```

```
[root@localhost amit]# cat summary
```

Files With Words ≤ 100 Are

arith 54

arithcase 79

arithmetic 40

atr 49

binary 91

weight 62

year 26

Files With Words > 100 & < 500 Are

CntWordFile 128

marksheet 146

que_ans 207

sumary 113

summaryword 185

vowel 154

WSP Enter the file name by command line and check give name is file, if it is file then removes interactively

```
if [ -f $* ]
then
echo "Give name is file"
rm -i $*
else
if [ -d $* ]
then
echo "Given name is directory."
else
echo "It is not valid directory or file name"
fi
fi
```

Output

```
[root@localhost amit]# sh cmdremove demo
Give name is file
rm: remove regular file `demo1'? y

[root@localhost amit]#
```

Shell program enter two numbers and calculate GCD of give number

```
echo Enter two numbers
read n1
read n2
while [ $n1 -ne $n2 ]
do
if [ $n1 -gt $n2 ]
then
n1=`expr $n1 - $n2`
else
n2=`expr $n2 - $n1`
fi
done
echo GCD of given number is $n2
```

Output

```
[root@localhost amit]# sh gcd
Enter two numbers
24
54
GCD of given number is 6

[root@localhost amit]#
```


**Linux program to receive file name & inform file is exists or not
If it's exists then give of access permission and its size.**

```
clear
echo enter the file name
read name
if [ -s $name ]
then
if [ -f $name ]
then
echo File is Exist
size=`ls -l $name | cut -c 25-28`
per=`ls -l $name | cut -c 2-10`
echo The size of file $size
echo The Permission of file is $per
else
echo The given is not file
fi
else
echo File Does not exist
fi
```

Output

```
[root@localhost amit]#
enter the file name
sqr
File is Exist
The size of file 89
The Permission of file is  rw-r--r-
```

```
enter the file name
amit
File Does not exists
[root@localhost amit]#
```

Linux shell program that accept 3*3 matrix and find the row and column totals

```
clear
echo "Enter the elements of matrix"
i=0
while [ $i -lt 9 ]
do
read mtx[i]
i=`expr $i + 1`
done
echo "The given matrix is"
echo ${mtx[0]} " ${mtx[1]} " ${mtx[2]}
echo ${mtx[3]} " ${mtx[4]} " ${mtx[5]}
echo ${mtx[6]} " ${mtx[7]} " ${mtx[8]}
echo " "
row1=`expr ${mtx[0]} + ${mtx[1]} + ${mtx[2]}`
row2=`expr ${mtx[3]} + ${mtx[4]} + ${mtx[5]}`
row3=`expr ${mtx[6]} + ${mtx[7]} + ${mtx[8]}`

clm1=`expr ${mtx[0]} + ${mtx[3]} + ${mtx[6]}`
clm2=`expr ${mtx[1]} + ${mtx[4]} + ${mtx[7]}`
clm3=`expr ${mtx[2]} + ${mtx[5]} + ${mtx[8]}`

totalrow=`expr $row1 + $row2 + $row3`
totalclm=`expr $clm1 + $clm2 + $clm3`
echo "The Addition of total row is:"
echo $totalrow
echo "The Addition of totalclm is:"
echo $totalclm
```

Output

```
[root@localhost amit]# sh mat_add
```

Enter the elements of matrix

3

3

3

3

3

3

3

3

3

The given matrix is

3 3 3

3 3 3

3 3 3

The Addition of total row is:

27

The Addition of totalclm is:

27

Find sum and average of the command line argument

```
sum=0
for i in $*
do
sum=`expr $sum + $i`
done
avg=`expr $sum / $#`
echo The Total is $sum
echo The Average is $avg
```

Output

```
[root@localhost amit] # sh sumavg 10 3
The Total is 13
The Average is 6
```

LINUX Shell program to count and print total number of files from given directory. The program should count files in subdirectories also which in turn may contain files and subdirectories

```
line=`ls -l | wc -l`
i=2
cnt=0
cnt0=0
cnt1=0
cnt2=0
while [ $i -le $line ]
do
fn=`ls -l | head -$i |tail -1 |cut -c 46-`
if [ -f $fn ]
then
cnt=`expr $cnt + 1`
else [ -d $fn ]
cnt1=`expr $cnt1 + 1`
cd $fn
echo `pwd`
ln=`ls -l |wc -l`
j=2
while [ $j -le $ln ]
do
fm=`ls -l | head -$j |tail -1 |cut -c 46-`
if [ -f $fm ]
then
cnt0=`expr $cnt0 + 1`
else [ -d $fm ]
cnt2=`expr $cnt2 + 1`
fi
j=`expr $j + 1`
done
echo *****Result Of Subdirectory*****
echo -e "\n Number of files in subdirectory =$cnt0"
echo -e "\n Number of dir in sub dir is =$cnt2"
cd ..
fi
i=`expr $i + 1`
done
```

```
echo *****Result Of Directory*****  
echo -e "\n Number of Files are =$cnt"  
  
echo -e "\n Number of Directory are =$cnt1"
```

Output

```
[root@localhost amit]# sh cnt_dir_file_subdir  
/root/amit/dd  
*****Result Of Subdirectory*****  
  
Number of files in subdirectory =3  
  
Number of dir in sub dir is =2  
*****Result Of Directory*****  
  
Number of Files are =55  
  
Number of Directory are =1  
[root@localhost amit]#
```

Linux program to count number of words that start with vowel and number of articles from given file

```
nv=0
na=0
echo Enter File Name
read fname

nl=`cat $fname | wc -l`
i=1

while [ $i -le $nl ]
do
x=`cat $fname | head -$i | tail -1`
nw=`echo $x | wc -w`
j=1

while [ $j -le $nw ]
do
w=`echo $x | cut -d " " -f$j`
c=`echo $w | cut -c1`
j=`expr $j + 1`

if test $w = "a" -o $w = "an" -o $w = "the"
then
na=`expr $na + 1`
fi

if test $c = "a" -o $c = "e" -o $c = "i" -o $c = "o" -o $c = "u"
then
nv=`expr $nv + 1`
fi
done
i=`expr $i + 1`
done
echo No. Of Words Start With Vowel=$nv
echo No. Of Article=$na
```

Output

```
[root@localhost amit]# cat amit  
a apple.  
earth good morning  
hello.  
bye bye  
the  
amit patil.
```

```
[root@localhost amit]# sh vowel  
Enter File Name  
amit
```

```
No. Of Words Start With Vowel=4  
No. Of Article=2
```


Linux shell program to count number of article and sentence in give file

```
echo enter the file name
read fname
nl=`cat $fname | wc -l`
i=1
na=0
ctw=0
cts=0
while [ $i -le $nl ]
do
x=`cat $fname | head -$i | tail -1`
nw=`echo $x | wc -w`
j=1
nc=`echo $x | wc -c`
while [ $j -le $nc ]
do
c=`echo $x | cut -c $j`
if ! [ -z $c ]           #The $c value is not null
then
if test $c = "."
then
cts=`expr $cts + 1`
fi
fi
j=`expr $j + 1`
done
k=1
while [ $k -le $nw ]
do
w=`echo $x | cut -d " " -f$k`
k=`expr $k + 1`
if test $w = "a" -o $w = "an" -o $w = "the"
then
na=`expr $na + 1`
fi
done
i=`expr $i + 1`
done
echo No. of sentence are = $cts
echo no. of articles = $na
```

Output

```
[root@localhost amit]# sh cnt_sent  
enter the file name  
amit
```

```
No. of sentence are = 3  
no. of articles = 1
```

Shell Program print first five line and the line between 10 to 20 in given file

```
clear
echo Enter The File Name
read var
echo The first 5 line is
cat $var | head -5
echo The line between 10 to 20 is
cat $var | head -20 | tail -10
```

Output

```
[root@localhost amit]# sh tal
```

```
Enter The File Name
Inputfile
```

```
The first 5 line is
```

```
1
2
3
4
5
```

```
The line between 10 to 20 is
```

```
11
12
13
14
15
16
17
18
19
20
```

Find the junk file and remove this file interactively

```
clear
for i in *
do
if [ -f $i ]
then
s=`ls -l $i | cut -d " " -f5`
if [ $s -eq 0 ]
then
echo "$i is Junk File"
rm -i $i
fi
fi
done
```

Output

```
[root@localhost amit]# sh junk
```

```
dr is Junk File
rm: remove regular empty file `dr'? y
dr1 is Junk File
rm: remove regular empty file `dr1'? y
fg2 is Junk File
rm: remove regular empty file `fg2'? y
```

Find the Fibonacci series of given number

```
clear
a=0
b=1
i=3
echo Enter the no
read n
echo $a
echo $b
while [ $i -le $n ]
do
c=`expr $a + $b`
echo $c
a=$b
b=$c
i=`expr $i + 1`
done
```

Output

```
[root@localhost amit]# sh fib
```

```
Enter the no
```

```
5
```

```
0
```

```
1
```

```
1
```

```
2
```

```
3
```

#To check whether number is divisible by 11 or not

```
echo "Enter any Number"
read n
r=`expr $n % 11`
if [ $r -eq 0 ]
then
echo $n " is divisible by 11"
else
echo $n " is not divisible by 11"
fi
```