```
# passing the parameters from shell

echo "file name: $0"
echo "First parameter: $1"
echo "Second parameter: $2"
echo "Total parameter: $#"
```

```
#!/bin/sh
#
#Script to print file
#
if cat $1
then
echo -e "\n\nFile $1, found and successfully echoed"
fi
```

```
#!/bin/sh
if rm $1
then
echo "$1 file deleted"
fi
```

```
#!/bin/bash
array=( apple bat cat dog elephant frog )
#print first element
echo ${array[0]}
echo ${array:0}
#display all elements
echo ${array[@]}
echo ${array[@]:0}
#display all elements except first one
echo ${array[@]:1}
#display elements in a range
echo ${array[@]:1:4}
#length of first element
echo ${#array[0]}
echo ${#array}
#number of elements
echo ${#array[*]}
echo ${#array[@]}
```

```
for i in `ls *.c`
do
```

```
cp $i /home/osboxes
done
echo files are copied


# factorial of a number
n=0
on=0
fact=1

echo -n "Enter number to find factorial : "
read n

on=$n

while [ $n -ge 1 ]
do
  fact=`expr $fact \* $n`
  n=`expr $n - 1`
done

echo "Factorial for $on is $fact"


#files in a directory

for i in `ls /home/osboxes/Desktop/`
do
echo $i
done

#multiplication table
#!/bin/sh
#
#Script to test for loop
#
#
if [ $# -eq 0 ]
then
echo "Error - Number missing form command line argument"
echo "Syntax : $0 number"
echo "Use to print multiplication table for given number"
exit 1
fi
n=$1
for i in 1 2 3 4 5 6 7 8 9 10
do
echo "$n * $i = `expr $i \* $n`"
done
```

#if else

```
# !bin/sh
a=10
b=20
echo "$a"
if [ $a -eq $b ]
then
      echo "a=b"
fi
if [ $a -ne $b ]
then
      echo "a is not equal to b"
fi
```

#if else

```
#!/bin/sh
#
# Script to see whether argument is positive or negative
#
if [ $# -eq 0 ]
then
echo "$0 : You must give/supply one integers"
exit 1
fi


if test $1 -gt 0
then
echo "$1 number is positive"
else
echo "$1 number is negative"
fi
```

#positive/negative

```
#!/bin/sh
#
# Script to see whether argument is positive
#
a=-5
if [ $a -gt 0 ]
then
echo "$a number is positive"
else
echo "$a number is negative"
```

```
fi


#array index access

name[0]="jyoti"
name[1]="Grover"
echo "first index : $ name[0]"
echo "second index : $ name[1]"
echo hello


#multiple if else

#!/bin/sh
# Script to test if..elif...else
#
if [ $1 -gt 0 ]
 then
   echo "$1 is positive"
elif [ $1 -lt 0 ]
then
   echo "$1 is negative"
elif [ $1 -eq 0 ]
then
   echo "$1 is zero"
else
   echo "Opps! $1 is not number, give number"
fi



#multiplication table

#! /bin/sh
echo enter the number
read n
for i in 1 2 3 4 5 6 7 8 9 10
do
x = `expr $n \* $i`
echo $x
done



#nested for

for (( i = 1; i <= 5; i++ ))        ### Outer for loop ###
do
    for (( j = 1 ; j <= 5; j++ )) ### Inner for loop ###
```

```
    do
        echo -n "$i "
    done
  echo "" #### print the new line ###
done


#nested for
for (( i = 1; i <= 5; i++ ))       ### Outer for loop ###
do
    for (( j = 1 ; j <= 5; j++ )) ### Inner for loop ###
    do
        echo -n "$i "
    done
  echo "" #### print the new line ###
done


#pattern1
for (( i=1; i<=5; i++ ))
do
    for (( j=1; j<=i;  j++ ))
    do
     echo -n "$i"
    done
    echo ""
done


#pattern 2
for (( i=1; i<=5; i++ ))
do
    for (( j=1; j<=i;  j++ ))
    do
     echo -n "$i"
    done
    echo ""
done


#sum of digits
```

```
n=$1
sum=0
sd=0
while [ $n -gt 0 ]
do
    sd=`expr $n % 10`
    sum=`expr $sum + $sd`
    n=`expr $n / 10`
done
    echo  "Sum of digit for numner is $sum"


#while loop

# !bin/sh
a=0
while [ $a -lt 10 ]
do
echo $a
a = $(( a+1 ))
done


#variable declaration

a=(2 3 4 5 6)
for i in ${a[@]}
do
echo $i
done


echo ${a[1]}
echo -e enter your name:
read name
echo $name
declare -i y=10
echo $y
declare -r var1=7
echo $var1
#declare -a 3
a[0]="jyoti"
a[1]="Grover"
a[2]="  "
echo "first index is : ${a[*]}"
echo "second index is : ${a[1]}"
echo "third index is : ${a[2]}"


#valid-invalid number
```

```
echo enter list of numbers
read number
for num in $number
do
if [ $num -lt 1 ] || [ $num -gt 100 ]
then
echo invalid number
else
echo valid number
fi
done
```