Shell script : https://chatgpt.com/c/6771646c-4f7c-8013-b74d-aa7b1212d154

- **Automating Tasks** (e.g., backups, file management).
- **Deployment Scripts** (e.g., deploying a web application).
- **System Monitoring** (e.g., checking disk usage, CPU, memory).
- **Data Processing** (e.g., parsing log files, batch processing files).
- **Networking** (e.g., pinging servers, downloading files).
- **Development Utilities** (e.g., automating git commands, environment setup).

```
1  echo "hello world"
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ dos2unix helloworld.sh
dos2unix: converting file helloworld.sh to Unix format...
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash helloworld.sh
hello world
```

Reading input :

```
1  echo "Enter number :"
2  read a
3  echo ${a}
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash helloworld.sh
Enter number :
5
5
```

```
1  echo $BASH
2  echo $BASH_VERSION
3  echo $NAME
4  echo $PWD
5
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash shellcommands.sh
/usr/bin/bash
5.1.16(1)-release
TNR
/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu
```

Default input :

```
1  echo $0 $1 $2 $3
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash defaultinput.sh T N R
defaultinput.sh T N R
```

Operator	Meaning	Example
`-eq`	Equal to	`[ $a -eq $b ]`
`-ne`	Not equal to	`[ $a -ne $b ]`
`-gt`	Greater than	`[ $a -gt $b ]`
`-lt`	Less than	`[ $a -lt $b ]`
`-ge`	Greater than or equal to	`[ $a -ge $b ]`
`-le`	Less than or equal to	`[ $a -le $b ]`

For strings :

Operator	Meaning	Example
`=`	Strings are equal	`[ "$str1" = "$str2" ]`
`!=`	Strings are not equal	`[ "$str1" != "$str2" ]`
`<`	String 1 is less than String 2	`[ "$str1" \< "$str2" ]`
`>`	String 1 is greater than String 2	`[ "$str1" \> "$str2" ]`
`-z`	String is null (zero length)	`[ -z "$str1" ]`
`-n`	String is not null (non-zero)	`[ -n "$str1" ]`

If condition :

```
1  echo "enter number :"
2  read a
3  if [ $a -eq 0 ]
4  then
5      echo "number is zero"
6  fi
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash ifcondition.sh
enter number :
0
number is zero
```

String comparision :

```
1
2  echo "Enter the first string:"
3  read str1
4  echo "Enter the second string:"
5  read str2
6
7  if [ "$str1" = "$str2" ]; then
8      echo "Strings are equal."
9  else
10     echo "Strings are not equal."
11 fi
12
13 if [ -z "$str1" ]; then
14     echo "The first string is empty."
15 else
16     echo "The first string is not empty."
17 fi
18
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash stringcomparision.sh
Enter the first string:
tnr
Enter the second string:
srm
Strings are not equal.
The first string is not empty.
```

If else ladder:

```
1  echo "enter number :"
2  read a
3  if [ $a -eq 0 ]
4  then
5      echo "number is zero"
6  elif [ $a -lt 0 ]
7  then
8      echo "number lessthan zero"
9  else
10     echo "number is greater than zero"
11 fi
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash ifelseif.sh
enter number :
6
number is greater than zero
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash ifelseif.sh
enter number :
-4
number lessthan zero
```

```
1  echo "enter file name :"
2  read a
3  if [ -e $a ]
4  then
5      echo "file name exist"
6  else
7      echo "file name nto found"
8  fi
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash fileexist.sh
enter file name :
3.sh
file name exist
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash fileexist.sh
enter file name :
tnr.sh
file name nto found
```

Appending text to file :

Before appending :

```
1   echo enter number :
2   read a
3
4
5   if [ $((a % 2)) == 0 ]; then
6           echo "$a is even number"
7   else
8           echo "$a is odd number"
9   fi
10  #evenorodd
```

```
1  echo "enter file name:"
2  read a
3  if [ -f $a ]
4  then
5      if [ -w $a ]
6      then
7          echo "file has write option"
8          echo "enter something to write : to quit press ctrl+d"
9          cat >> $a
10     else
11         echo "file not have write permission"
12     fi
13 else
14     echo "file not found"
15 fi
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash dataappendingtofile
enter file name:
2.sh
file has write option
enter something to write : to quit press ctrl+d
qertyyrgdtfd tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ cat 2.sh
echo enter number :
read a


if [ $((a % 2)) == 0 ]; then
      echo "$a is even number"
else
      echo "$a is odd number"
fi
#evenorodd
qertyyrgdtfd tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$
```

```
1   echo enter number :
2   read a
3
4
5   if [ $((a % 2)) == 0 ]; then
6           echo "$a is even number"
7   else
8           echo "$a is odd number"
9   fi
10  #evenorodd
11  qertyyrgdtfd
```

Logical operator :

Operator	Syntax	Meaning	Example
&&	cond1 && cond2	Logical AND: Both conditions must be true.	[$a -gt 0] && [$b -lt 10]
`		`	`cond1
!	! condition	Logical NOT: Negates a condition.	! [$a -gt 0]

Arthematic operation:

```
1  echo "Enter the first number:"
2  read num1
3  echo "Enter the second number:"
4  read num2
5  sum=$((num1 + num2)) # $(expr $num1 + $num2 )
6  difference=$((num1 - num2)) # $(expr $num1 - $num2 )
7  product=$((num1 * num2)) # $(expr $num1 \* $num2 )
8  echo "Sum: $sum"
9  echo "Difference: $difference"
10 echo "Product: $product"
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash arthematic.sh
Enter the first number:
5
Enter the second number:
6
Sum: 11
Difference: -1
Product: 30
```

Switch case:

```
echo "Enter a lowercase letter:"
read a

case $a in
    "a"|"e"|"i"|"o"|"u" )
        echo "The letter is a vowel"
        ;;S
    * )
        echo "The letter is a consonant"
        ;;
esac
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash switch.sh
Enter a lowercase letter:
r
The letter is a consonant
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash switch.sh
Enter a lowercase letter:
a
The letter is a vowel
```

Arrays :

```
os=('windows' 'unix' 'kali')
echo ${os[@]}
echo ${#os[@]}
echo ${os[0]}
echo ${os[1]}
os[0]="mac"
echo ${os[0]}
unset os[2]
echo ${os[@]}

str=asdfghfgh
echo ${str[@]}
echo ${str[0]}
echo ${str[1]}
echo ${#str[@]}
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash arrayvariable.sh
windows unix kali
3
windows
unix
mac
mac unix
asdfghfgh
asdfghfgh

1
```

While loop :

```
1  echo "Enter first number:"
2  read a
3  echo "Enter second number:"
4  read b
5
6  if [ $a -gt $b ]; then
7      echo "Second number should be greater than the first. Try again."
8      exit 1
9  fi
10
11 while [ $a -lt $b ]; do
12     echo $a
13     a=$((a + 1))
14 done
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash whileloop.sh
Enter first number:
5
Enter second number:
6
5
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash whileloop.sh
Enter first number:
1
Enter second number:
10
1
2
3
4
5
6
7
8
9
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash whileloop.sh
Enter first number:
10
Enter second number:
9
Second number should be greater than the first. Try again.
```

Until loop :

```
n=1
until [ $n -gt 10 ]
do
    echo $n
    n=$((n+1))
done
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash untilloop.sh
1
2
3
4
5
6
7
8
9
10
```

For loop :

```
for i in 1 2 3 4 5
do
    echo $i
done
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash forloop.sh
1
2
3
4
5
```

```
for i in {1..10..2}
do
    echo $i
done
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash forloop.sh
1
3
5
7
9
```

```
for i in pwd date whoami
do
    $i
done
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash forloop.sh
/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu
Tue Dec 31 16:21:38 IST 2024
tnrahalya
```

Select loop:

```
select name in T N R
do
    echo "$name selected"
done
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash selectloop.sh
1) T
2) N
3) R
#? 2
N selected
#? 5
 selected
#? ^C
```

Functions :

```
1  function print(){
2      echo $1
3  }
4  function hello(){
5      echo "helloworld"
6  }
7  function quit(){
8      exit
9  }
10
11 print 5
12 hello
13 quit
```

```
tnrahalya@TNR:/mnt/c/Users/tallu/OneDrive/Documents/shell script/ubuntu$ bash functions.sh
5
helloworld
```