

## BASH

### ARITHMETICS IN BASH

```
kireeti@ac255b1135b0553: ~  
kireeti@ac255b1135b0553:~$ arthi_oper.sh  
arthi_oper.sh: command not found  
kireeti@ac255b1135b0553:~$ touch arthi_oper.sh  
kireeti@ac255b1135b0553:~$ nano arthi_oper.sh  
kireeti@ac255b1135b0553:~$ ls -ltr  
total 56  
-rw-r--r-- 1 kireeti kireeti 164 Jan 21 07:09 index.html  
-rwxr-xr-x 1 kireeti kireeti 141 Jan 22 04:33 file1.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 04:35 rin  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 04:35 nam1  
-rwxr-xr-x 1 kireeti kireeti 219 Jan 22 09:43 greet.sh  
-rwxr-xr-x 1 kireeti kireeti 215 Jan 22 10:13 greeting.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 12:09 testfile  
-rwxr-xr-x 1 kireeti kireeti 84 Jan 22 12:19 script.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 12:21 test_website  
drwx----- 3 kireeti kireeti 4096 Jan 23 06:12 snap  
-rwxrwxr-x 1 kireeti kireeti 445 Jan 23 12:19 add.sh  
-rwxr-xr-x 1 kireeti kireeti 401 Jan 24 05:23 palindrome.sh  
-rwxr-xr-x 1 kireeti kireeti 144 Jan 24 06:08 reverse_number.sh  
-rwxr-xr-x 1 kireeti kireeti 286 Jan 24 06:14 pascal_triangle.sh  
-rwxr-xr-x 1 kireeti kireeti 202 Jan 24 06:24 array_sum.sh  
-rwxr-xr-x 1 kireeti kireeti 591 Jan 24 06:31 bubble_sort.sh  
-rwxr-xr-x 1 kireeti kireeti 197 Jan 24 06:52 user_input.sh  
-rw-r--r-- 1 kireeti kireeti 814 Jan 24 11:35 arthi_oper.sh  
kireeti@ac255b1135b0553:~$ chmod a+x arthi_oper.sh  
kireeti@ac255b1135b0553:~$ ./arthi_oper.sh  
x=8, y=2  
Addition of x & y:  
10  
Subtraction of x & y:  
6  
Multiplication of x & y:  
16  
Division of x by y:  
4  
Exponentiation of x,y:  
64  
Modular Division of x,y:  
0  
Incrementing x by 5, then x=  
13
```

```
kireeti@ac255b1135b0553: ~  
-rwxr-xr-x 1 kireeti kireeti 144 Jan 24 06:08 reverse_number.sh  
-rwxr-xr-x 1 kireeti kireeti 286 Jan 24 06:14 pascal_triangle.sh  
-rwxr-xr-x 1 kireeti kireeti 202 Jan 24 06:24 array_sum.sh  
-rwxr-xr-x 1 kireeti kireeti 591 Jan 24 06:31 bubble_sort.sh  
-rwxr-xr-x 1 kireeti kireeti 197 Jan 24 06:52 user_input.sh  
-rw-r--r-- 1 kireeti kireeti 814 Jan 24 11:35 arthi_oper.sh  
kireeti@ac255b1135b0553:~$ chmod a+x arthi_oper.sh  
kireeti@ac255b1135b0553:~$ ./arthi_oper.sh  
x=8, y=2  
Addition of x & y:  
10  
Subtraction of x & y:  
6  
Multiplication of x & y:  
16  
Division of x by y:  
4  
Exponentiation of x,y:  
64  
Modular Division of x,y:  
0  
Incrementing x by 5, then x=  
13  
Decrementing x by 5, then x=  
8  
Multiplying x by 5, then x=  
40  
Dividing x by 5, then x=  
8  
Remainder of dividing x by 5, x=  
3  
kireeti@ac255b1135b0553:~$
```

```
kireeti@ac255b1135b0553: ~
GNU nano 7.2 arthi_oper.sh
#!/bin/bash

x=8
y=2

echo "x=8, y=2"

# Addition
echo "Addition of x & y:"
echo $(( x + y ))

# Subtraction
echo "Subtraction of x & y:"
echo $(( x - y ))

# Multiplication
echo "Multiplication of x & y:"
echo $(( x * y ))

# Division
echo "Division of x by y:"
echo $(( x / y ))

# Exponentiation
echo "Exponentiation of x,y:"
echo $(( x ** y ))

# Modular Division
echo "Modular Division of x,y:"
echo $(( x % y ))

# Increment x by 5
echo "Incrementing x by 5, then x="
(( x += 5 ))
echo $x

# Decrement x by 5
```

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Read 56 lines

Help Write Out Where Is Cut Execute Location Undo Set Mark To Bracket  
Exit Read File Replace Paste Justify Go To Line Redo Copy Where Was

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```
kireeti@ac255b1135b0553: ~
GNU nano 7.2 arthi_oper.sh
echo "Division of x by y:"
echo $(( x / y ))

# Exponentiation
echo "Exponentiation of x,y:"
echo $(( x ** y ))

# Modular Division
echo "Modular Division of x,y:"
echo $(( x % y ))

# Increment x by 5
echo "Incrementing x by 5, then x="
(( x += 5 ))
echo $x

# Decrement x by 5
echo "Decrementing x by 5, then x="
(( x -= 5 ))
echo $x

# Multiply x by 5
echo "Multiplying x by 5, then x="
(( x *= 5 ))
echo $x

# Divide x by 5
echo "Dividing x by 5, then x="
(( x /= 5 ))
echo $x

# Remainder when dividing x by 5
echo "Remainder of dividing x by 5, x="
(( x %= 5 ))
echo $x
```

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Read 56 lines

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```
kireeti@ac255b1135b0553: ~  
array_sum.sh bubble_sort.sh greet.sh index.html palindrome.sh reverse_number.sh script.sh test_website user_input.sh  
kireeti@ac255b1135b0553:~$ nano add.sh  
kireeti@ac255b1135b0553:~$ nano add1.sh  
kireeti@ac255b1135b0553:~$ ./add1.sh  
-bash: ./add1.sh: Permission denied  
kireeti@ac255b1135b0553:~$ chmod a+x add  
add.sh add1.sh  
kireeti@ac255b1135b0553:~$ chmod a+x add1.sh  
kireeti@ac255b1135b0553:~$ ls -ltr  
total 60  
-rw-r--r-- 1 kireeti kireeti 164 Jan 21 07:09 index.html  
-rwxr-xr-x 1 kireeti kireeti 141 Jan 22 04:33 file1.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 04:35 rin  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 04:35 nam1  
-rwxr-xr-x 1 kireeti kireeti 219 Jan 22 09:43 greet.sh  
-rwxr-xr-x 1 kireeti kireeti 215 Jan 22 10:13 greeting.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 12:09 testfile  
-rwxr-xr-x 1 kireeti kireeti 84 Jan 22 12:19 script.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 12:21 test_website  
drwx----- 3 kireeti kireeti 4096 Jan 23 06:12 snap  
-rwxr-xr-x 1 kireeti kireeti 481 Jan 24 05:23 palindrome.sh  
-rwxr-xr-x 1 kireeti kireeti 144 Jan 24 06:08 reverse_number.sh  
-rwxr-xr-x 1 kireeti kireeti 286 Jan 24 06:14 pascal_Triangle.sh  
-rwxr-xr-x 1 kireeti kireeti 282 Jan 24 06:24 array_sum.sh  
-rwxr-xr-x 1 kireeti kireeti 591 Jan 24 06:31 bubble_sort.sh  
-rwxr-xr-x 1 kireeti kireeti 197 Jan 24 06:52 user_input.sh  
-rwxr-xr-x 1 kireeti kireeti 814 Jan 24 11:38 arthi_oper.sh  
-rwxrwxr-x 1 kireeti kireeti 445 Jan 24 12:14 add.sh  
-rwxr-xr-x 1 kireeti kireeti 173 Jan 24 12:15 add1.sh  
kireeti@ac255b1135b0553:~$ ./add1.sh  
a=10, b=3  
c is the value of addition c=a+b  
c = 13  
kireeti@ac255b1135b0553:~$
```

## ADD

```
kireeti@ac255b1135b0553: ~  
array_sum.sh bubble_sort.sh greet.sh index.html palindrome.sh reverse_number.sh script.sh test_website user_input.sh  
kireeti@ac255b1135b0553:~$ nano add.sh  
kireeti@ac255b1135b0553:~$ nano add1.sh  
kireeti@ac255b1135b0553:~$ ./add1.sh  
-bash: ./add1.sh: Permission denied  
kireeti@ac255b1135b0553:~$ chmod a+x add  
add.sh add1.sh  
kireeti@ac255b1135b0553:~$ chmod a+x add1.sh  
kireeti@ac255b1135b0553:~$ ls -ltr  
total 60  
-rw-r--r-- 1 kireeti kireeti 164 Jan 21 07:09 index.html  
-rwxr-xr-x 1 kireeti kireeti 141 Jan 22 04:33 file1.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 04:35 rin  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 04:35 nam1  
-rwxr-xr-x 1 kireeti kireeti 219 Jan 22 09:43 greet.sh  
-rwxr-xr-x 1 kireeti kireeti 215 Jan 22 10:13 greeting.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 12:09 testfile  
-rwxr-xr-x 1 kireeti kireeti 84 Jan 22 12:19 script.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 12:21 test_website  
drwx----- 3 kireeti kireeti 4096 Jan 23 06:12 snap  
-rwxr-xr-x 1 kireeti kireeti 481 Jan 24 05:23 palindrome.sh  
-rwxr-xr-x 1 kireeti kireeti 144 Jan 24 06:08 reverse_number.sh  
-rwxr-xr-x 1 kireeti kireeti 286 Jan 24 06:14 pascal_Triangle.sh  
-rwxr-xr-x 1 kireeti kireeti 282 Jan 24 06:24 array_sum.sh  
-rwxr-xr-x 1 kireeti kireeti 591 Jan 24 06:31 bubble_sort.sh  
-rwxr-xr-x 1 kireeti kireeti 197 Jan 24 06:52 user_input.sh  
-rwxr-xr-x 1 kireeti kireeti 814 Jan 24 11:38 arthi_oper.sh  
-rwxrwxr-x 1 kireeti kireeti 445 Jan 24 12:14 add.sh  
-rwxr-xr-x 1 kireeti kireeti 173 Jan 24 12:15 add1.sh  
kireeti@ac255b1135b0553:~$ ./add1.sh  
a=10, b=3  
c is the value of addition c=a+b  
c = 13  
kireeti@ac255b1135b0553:~$
```

```
kireeti@ac255b1135b0553: ~
GNU nano 7.2                                add1.sh
#!/bin/bash
# Basic arithmetic using expr

echo "a=10, b=3"
echo "c is the value of addition c=a+b"

a=10
b=3

# Perform addition using expr
c= expr $a + $b
echo "c = $c"
```

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Help Write Out Where Is Cut Read 13 lines Execute Location Undo Set Mark To Bracket  
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17:47  
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## IF STATEMENTS IN BASH:

```
kireeti@ac255b1135b0553: ~  
kireeti@ac255b1135b0553:~$ nano ifdemo1.sh  
kireeti@ac255b1135b0553:~$ chmod a+x ifdemo1.sh  
kireeti@ac255b1135b0553:~$ ./ifdemo1.sh  
Enter number: 125  
kireeti@ac255b1135b0553:~$ ./ifdemo1.sh  
Enter number: 130  
Value is greater than 125  
kireeti@ac255b1135b0553:~$
```

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```
kireeti@ac255b1135b0553: ~  
GNU nano 7.2 ifdemo1.sh  
#!/bin/bash  
  
# Prompt the user to enter a number  
read -p "Enter number: " number  
  
# Check if the number is greater than 125  
if [ $number -gt 125 ]; then  
    echo "Value is greater than 125"  
fi
```

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## IF STATEMENTS USING ==

```
kireeti@ac255b1135b0553: ~  
GNU nano 7.2 ifdemo2.sh *  
#!/bin/bash  
  
# If condition is true  
if [ "myfile" == "myfile" ]; then  
    echo "true condition"  
fi  
  
# If condition is false  
if [ "myfile" == "yourfile" ]; then  
    echo "false condition"  
fi
```

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Help Exit Write Out Read File Where Is Replace Cut Paste Execute Justify Location Go To Line Undo Redo Set Mark Copy To Bracket Where Was

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```
kireeti@ac255b1135b0553: ~  
kireeti@ac255b1135b0553:~$ nano ifdemo2.sh  
kireeti@ac255b1135b0553:~$ chmod +x ifdemo2.sh  
kireeti@ac255b1135b0553:~$ ./ifdemo2.sh  
true condition  
kireeti@ac255b1135b0553:~$ nano ifdemo2.sh  
kireeti@ac255b1135b0553:~$
```

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## IF CONDITION USING UNARY OPERATORS:

```
kireeti@ac255b1135b0553: ~  
GNU nano 7.2 ifdemo3.sh  
#!/bin/bash  
  
# If condition (greater than) is true  
if [ 10 -gt 3 ]; then  
    echo "10 is greater than 3."  
fi  
  
# If condition (greater than) is false  
if [ 3 -gt 10 ]; then  
    echo "3 is not greater than 10."  
fi  
  
# If condition (less than) is true  
if [ 3 -lt 10 ]; then  
    echo "3 is less than 10."  
fi  
  
# If condition (less than) is false  
if [ 10 -lt 3 ]; then  
    echo "10 is not less than 3."  
fi  
  
# If condition (equal to) is true  
if [ 10 -eq 10 ]; then  
    echo "10 is equal to 10."  
fi  
  
# If condition (equal to) is false  
if [ 10 -eq 9 ]; then  
    echo "10 is not equal to 9"  
fi
```

```
kireeti@ac255b1135b0553: ~  
kireeti@ac255b1135b0553:~$ nano ifdemo3.sh  
kireeti@ac255b1135b0553:~$ chmod +x ifdemo3.sh  
kireeti@ac255b1135b0553:~$ ls -ltr  
total 72  
-rw-r--r-- 1 kireeti kireeti 164 Jan 21 07:09 index.html  
-rwxr-xr-x 1 kireeti kireeti 141 Jan 22 04:33 file1.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 04:35 rin  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 04:35 nam1  
-rwxr-xr-x 1 kireeti kireeti 219 Jan 22 09:43 greet.sh  
-rwxr-xr-x 1 kireeti kireeti 215 Jan 22 10:13 greeting.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 12:09 testfile  
-rwxr-xr-x 1 kireeti kireeti 84 Jan 22 12:19 script.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 12:21 test_website  
drwx----- 3 kireeti kireeti 4096 Jan 23 06:12 snap  
-rwxr-xr-x 1 kireeti kireeti 401 Jan 24 05:23 palindrome.sh  
-rwxr-xr-x 1 kireeti kireeti 144 Jan 24 06:08 reverse_number.sh  
-rwxr-xr-x 1 kireeti kireeti 286 Jan 24 06:14 pascal_triangle.sh  
-rwxr-xr-x 1 kireeti kireeti 282 Jan 24 06:24 array_sum.sh  
-rwxr-xr-x 1 kireeti kireeti 591 Jan 24 06:31 bubble_sort.sh  
-rwxr-xr-x 1 kireeti kireeti 197 Jan 24 06:52 user_input.sh  
-rwxr-xr-x 1 kireeti kireeti 814 Jan 24 11:30 arith_oper.sh  
-rwxrwxr-x 1 kireeti kireeti 445 Jan 24 12:14 add.sh  
-rwxr-xr-x 1 kireeti kireeti 173 Jan 24 12:17 add1.sh  
-rwxr-xr-x 1 kireeti kireeti 194 Jan 24 12:24 ifdemo1.sh  
-rwxr-xr-x 1 kireeti kireeti 190 Jan 24 12:26 ifdemo2.sh  
-rwxr-xr-x 1 kireeti kireeti 587 Jan 24 12:28 ifdemo3.sh  
kireeti@ac255b1135b0553:~$ ./ifdemo3.sh  
10 is greater than 3.  
3 is less than 10.  
10 is equal to 10.  
kireeti@ac255b1135b0553:~$
```

IF CONDITIONS USING “AND” and “OR”:

```
kireeti@ac255b1135b0553: ~  
kireeti@ac255b1135b0553:~$ nano ifdemo4.sh  
kireeti@ac255b1135b0553:~$ chmod a+x ifdemo4.sh  
kireeti@ac255b1135b0553:~$ ls -ltr  
total 76  
-rw-r--r-- 1 kireeti kireeti 164 Jan 21 07:09 index.html  
-rwxr-xr-x 1 kireeti kireeti 141 Jan 22 04:33 file1.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 04:35 rin  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 04:35 nam1  
-rwxr-xr-x 1 kireeti kireeti 219 Jan 22 09:43 greet.sh  
-rwxr-xr-x 1 kireeti kireeti 215 Jan 22 10:13 greeting.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 12:09 testfile  
-rwxr-xr-x 1 kireeti kireeti 84 Jan 22 12:19 script.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 12:21 test_website  
drwx----- 3 kireeti kireeti 4096 Jan 23 06:12 snap  
-rwxr-xr-x 1 kireeti kireeti 401 Jan 24 05:23 palindrome.sh  
-rwxr-xr-x 1 kireeti kireeti 144 Jan 24 06:08 reverse_number.sh  
-rwxr-xr-x 1 kireeti kireeti 286 Jan 24 06:14 pascal_triangle.sh  
-rwxr-xr-x 1 kireeti kireeti 282 Jan 24 06:24 array_sum.sh  
-rwxr-xr-x 1 kireeti kireeti 591 Jan 24 06:31 bubble_sort.sh  
-rwxr-xr-x 1 kireeti kireeti 197 Jan 24 06:52 user_input.sh  
-rwxr-xr-x 1 kireeti kireeti 814 Jan 24 11:38 arith_op.sh  
-rwxr-xr-x 1 kireeti kireeti 445 Jan 24 12:14 add.sh  
-rwxr-xr-x 1 kireeti kireeti 173 Jan 24 12:17 add1.sh  
-rwxr-xr-x 1 kireeti kireeti 194 Jan 24 12:24 ifdemo1.sh  
-rwxr-xr-x 1 kireeti kireeti 190 Jan 24 12:26 ifdemo2.sh  
-rwxr-xr-x 1 kireeti kireeti 587 Jan 24 12:28 ifdemo3.sh  
-rwxr-xr-x 1 kireeti kireeti 283 Jan 24 12:30 ifdemo4.sh  
kireeti@ac255b1135b0553:~$ ./ifdemo4.sh  
Conditions are true  
kireeti@ac255b1135b0553:~$
```

```
kireeti@ac255b1135b0553: ~  
GNU nano 7.2 ifdemo4.sh  
#!/bin/bash  
  
# TRUE && TRUE  
if [ 8 -gt 0 ] && [ 10 -eq 10 ]; then  
    echo "Conditions are true"  
fi  
  
# TRUE && FALSE  
if [ "mylife" == "mylife" ] && [ 3 -gt 10 ]; then  
    echo "Conditions are false"  
fi
```



```
kireeti@ac255b1135b0553: ~  
GNU nano 7.2 if_demo5.sh  
#!/bin/bash  
  
# TRUE && FALSE || FALSE || TRUE  
if [[ 10 -eq 10 && 5 -gt 4 || 3 -eq 4 || 3 -lt 6 ]]; then  
    echo "Condition is true."  
fi  
  
# TRUE && FALSE || FALSE  
if [[ 8 -eq 8 && 8 -gt 10 || 9 -lt 5 ]]; then  
    echo "Condition is false."  
fi
```

Activate Windows  
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Help Exit Write Out Read File Where Is Replace Cut Paste Read 12 lines Execute Justify Location Go To Line Undo Redo Set Mark To Bracket Copy Where Was

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## NESTED-IF STATEMENTS:

```
kireeti@ac255b1135b0553: ~  
GNU nano 7.2  
#!/bin/bash  
# Nested if statement  
  
# Check if an argument is provided  
if [ -z "$1" ]; then  
    echo "Error: No number provided. Please pass a number as an argument."  
    exit 1  
fi  
  
# Check if the provided argument is a valid number  
if [ ! (( "$1" =~ ^[0-9]+$ )) ]; then  
    echo "Error: '$1' is not a valid number. Please provide a numeric value."  
    exit 1  
fi  
  
# Proceed with the nested if statements  
if [ $1 -gt 50 ]; then  
    echo "Number is greater than 50,"  
    if (( $1 % 2 == 0 )); then  
        echo "and it is an even number."  
    fi  
fi
```

```
kireeti@ac255b1135b0553: ~  
kireeti@ac255b1135b0553:~$ nano nested_if.sh  
kireeti@ac255b1135b0553:~$ ./nested_if.sh  
Error: No number provided. Please pass a number as an argument.  
kireeti@ac255b1135b0553:~$ ./nested_if.sh 34  
kireeti@ac255b1135b0553:~$ ./nested_if.sh 909  
Number is greater than 50.  
kireeti@ac255b1135b0553:~$
```

## 1) IF -ELSE STATEMENT:

```
kireeti@ac255b1135b0553: ~  
kireeti@ac255b1135b0553:~$ nano nested_if.sh  
kireeti@ac255b1135b0553:~$ ./nested_if.sh  
Error: No number provided. Please pass a number as an argument.  
kireeti@ac255b1135b0553:~$ ./nested_if.sh 34  
kireeti@ac255b1135b0553:~$ ./nested_if.sh 909  
Number is greater than 50.  
kireeti@ac255b1135b0553:~$ nano if_else1.sh  
kireeti@ac255b1135b0553:~$ chmod a+x if_else1.sh  
kireeti@ac255b1135b0553:~$ ./if_else1.sh  
10 is greater than 3.  
3 is not greater than 10.  
kireeti@ac255b1135b0553:~$
```

  

```
GNU nano 7.2 if_else1.sh  
#!/bin/bash  
# When the condition is true  
if [ 10 -gt 3 ];  
then  
    echo "10 is greater than 3."  
else  
    echo "10 is not greater than 3."  
fi  
  
# When the condition is false  
if [ 3 -gt 10 ];  
then  
    echo "3 is greater than 10."  
else  
    echo "3 is not greater than 10."  
fi
```

2.

```
kireeti@ac255b1135b0553: ~  
kireeti@ac255b1135b0553:~$ nano nested_if.sh  
kireeti@ac255b1135b0553:~$ ./nested_if.sh  
Error: No number provided. Please pass a number as an argument.  
kireeti@ac255b1135b0553:~$ ./nested_if.sh 34  
kireeti@ac255b1135b0553:~$ ./nested_if.sh 909  
Number is greater than 50.  
kireeti@ac255b1135b0553:~$ nano if_else1.sh  
kireeti@ac255b1135b0553:~$ chmod a+x if_else1.sh  
kireeti@ac255b1135b0553:~$ ./if_else1.sh  
10 is greater than 3.  
0 is not greater than 10.  
kireeti@ac255b1135b0553:~$ nano if_else1.sh  
kireeti@ac255b1135b0553:~$ nano if_else2.sh  
kireeti@ac255b1135b0553:~$ chmod a+x if_else2.sh  
kireeti@ac255b1135b0553:~$ ./if_else2.sh  
Given condition is true.  
Given condition is not true.  
kireeti@ac255b1135b0553:~$
```

  

```
GNU nano 7.2 if_else2.sh  
#!/bin/bash  
# When condition is true  
# TRUE && FALSE || FALSE || TRUE  
if [[ 10 -gt 9 && 10 == 9 || 2 -lt 1 || 25 -gt 20 ]];  
then  
    echo "Given condition is true."  
else  
    echo "Given condition is false."  
fi  
  
# When condition is false  
# TRUE && FALSE || FALSE || TRUE  
if [[ 10 -gt 9 && 10 == 8 || 3 -gt 4 || 8 -gt 8 ]];  
then  
    echo "Given condition is true."  
else  
    echo "Given condition is not true."  
fi
```

3.

```
kireeti@ac255b1135b0553: ~  
kireeti@ac255b1135b0553:~$ nano if_else3.sh  
kireeti@ac255b1135b0553:~$ chmod a+x if_else3.sh  
kireeti@ac255b1135b0553:~$ ./if_else3.sh  
Enter a value: 14  
The value you typed is greater than 9.  
kireeti@ac255b1135b0553:~$ ./if_else3.sh  
Enter a value: 2  
The value you typed is not greater than 9.  
kireeti@ac255b1135b0553:~$
```

```
GNU nano 7.2 if_else3.sh  
#!/bin/bash  
read -p "Enter a value: " value  
if [ "$value" -gt 9 ]; then  
    echo "The value you typed is greater than 9."  
else  
    echo "The value you typed is not greater than 9."  
fi
```

4.

```
kireeti@ac255b1135b0553: ~  
GNU nano 7.2 if_else4.sh *  
#!/bin/bash  
  
read -p "Enter a number of quantity: " num  
  
if [ "$num" -gt 100 ]; then  
    echo "Eligible for 10% discount"  
elif [ "$num" -lt 100 ]; then  
    echo "Eligible for 5% discount"  
else  
    echo "Lucky Draw Winner"  
    echo "Eligible to get the item for free"  
fi
```

```
kireeti@ac255b1135b0553: ~  
kireeti@ac255b1135b0553:~$ nano if_else4.sh  
kireeti@ac255b1135b0553:~$ nano if_else4.sh  
kireeti@ac255b1135b0553:~$ chmod +x if_else4.sh  
kireeti@ac255b1135b0553:~$ ls -ltr  
total 100  
-rw-r--r-- 1 kireeti kireeti 164 Jan 21 07:09 index.html  
-rwxr-xr-x 1 kireeti kireeti 141 Jan 22 04:33 file1.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 04:35 rin  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 04:35 nam1  
-rwxr-xr-x 1 kireeti kireeti 219 Jan 22 09:43 greet.sh  
-rwxr-xr-x 1 kireeti kireeti 215 Jan 22 10:13 greeting.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 12:09 testfile  
-rwxr-xr-x 1 kireeti kireeti 84 Jan 22 12:19 script.sh  
-rw-r--r-- 1 kireeti kireeti 0 Jan 22 12:21 test_website  
drwx----- 3 kireeti kireeti 4096 Jan 23 06:12 snap  
-rwxr-xr-x 1 kireeti kireeti 481 Jan 24 05:23 palindrome.sh  
-rwxr-xr-x 1 kireeti kireeti 144 Jan 24 06:08 reverse_number.sh  
-rwxr-xr-x 1 kireeti kireeti 286 Jan 24 06:14 pascal_triangle.sh  
-rwxr-xr-x 1 kireeti kireeti 282 Jan 24 06:24 array_sum.sh  
-rwxr-xr-x 1 kireeti kireeti 591 Jan 24 06:31 bubble_sort.sh  
-rwxr-xr-x 1 kireeti kireeti 197 Jan 24 06:52 user_input.sh  
-rwxr-xr-x 1 kireeti kireeti 814 Jan 24 11:38 arith1_op.sh  
-rwxr-xr-x 1 kireeti kireeti 445 Jan 24 12:14 add.sh  
-rwxr-xr-x 1 kireeti kireeti 173 Jan 24 12:17 add1.sh  
-rwxr-xr-x 1 kireeti kireeti 194 Jan 24 12:24 ifdemo1.sh  
-rwxr-xr-x 1 kireeti kireeti 190 Jan 24 12:26 ifdemo2.sh  
-rwxr-xr-x 1 kireeti kireeti 587 Jan 24 12:28 ifdemo3.sh  
-rwxr-xr-x 1 kireeti kireeti 203 Jan 24 12:31 ifdemo4.sh  
-rwxr-xr-x 1 kireeti kireeti 244 Jan 24 12:33 ifdemo5.sh  
-rwxr-xr-x 1 kireeti kireeti 546 Jan 25 05:13 nested_if.sh  
-rwxr-xr-x 1 kireeti kireeti 285 Jan 25 06:59 if_else1.sh  
-rwxr-xr-x 1 kireeti kireeti 426 Jan 25 07:00 if_else2.sh  
-rwxr-xr-x 1 kireeti kireeti 188 Jan 25 07:02 if_else3.sh  
-rwxr-xr-x 1 kireeti kireeti 271 Jan 25 07:11 if_else4.sh  
kireeti@ac255b1135b0553:~$ ./if_else4.sh  
Enter a number of quantity: 4  
Eligible for 5% discount  
kireeti@ac255b1135b0553:~$ ./if_else4.sh  
Enter a number of quantity: 7  
Eligible for 5% discount  
kireeti@ac255b1135b0553:~$
```

5.

```
kireeti@ac255b1135b0553: ~  
kireeti@ac255b1135b0553:~$ nano if_else5.sh  
kireeti@ac255b1135b0553:~$ chmod a+x if_else5.sh  
kireeti@ac255b1135b0553:~$ ./if_else5.sh  
Enter a number of quantity: 100  
Lucky Draw Winner  
Eligible to get the item for free  
kireeti@ac255b1135b0553:~$ ./if_else5.sh  
Enter a number of quantity: 45  
No discount  
kireeti@ac255b1135b0553:~$
```

```
kireeti@ac255b1135b0553: ~  
GNU nano 7.2 if_else5.sh  
#!/bin/bash  
  
read -p "Enter a number of quantity: " num  
  
if [ "$num" -gt 200 ]; then  
    echo "Eligible for 20% discount"  
  
elif [[ "$num" == 200 || "$num" == 100 ]]; then  
    echo "Lucky Draw Winner"  
    echo "Eligible to get the item for free"  
  
elif [[ "$num" -gt 100 && "$num" -lt 200 ]]; then  
    echo "Eligible for 10% discount"  
  
elif [ "$num" -lt 100 ]; then  
    echo "No discount"  
fi
```