


BASH PROGRAMS

1. ARITHMETIC OPERATORS

 juhi@05d861eca28c5c4: ~

```
juhi@05d861eca28c5c4:~$ touch operators.sh
juhi@05d861eca28c5c4:~$ chmod +x operators.sh
juhi@05d861eca28c5c4:~$ gedit operators.sh
^C
juhi@05d861eca28c5c4:~$ ./operators.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
Multiply of x by 5, then x=
40
Dividing x by 5, x=
8
Remainder of Dividing x by 5, x=
3
juhi@05d861eca28c5c4:~$ _
```

```
juhi@05d861eca28c5c4:~$ cat operators.sh
#!/bin/bash

x=8
y=2
echo "x=8, y=2"
echo "Addition of x & y"
echo $(( $x + $y ))
echo "Subtraction of x & y"
echo $(( $x - $y ))
echo "Multiplication of x & y"
echo $(( $x * $y ))
echo "Division of x by y"
echo $(( $x / $y ))
echo "Exponentiation of x,y"
echo $(( $x ** $y ))
echo "Modular Division of x,y"
echo $(( $x % $y ))
echo "Incrementing x by 5, then x= "
(( x += 5 ))
echo $x
echo "Decrementing x by 5, then x= "
(( x -= 5 ))
echo $x
echo "Multiply of x by 5, then x="
(( x *= 5 ))
echo $x
echo "Dividing x by 5, x= "
(( x /= 5 ))
echo $x
echo "Remainder of Dividing x by 5, x="
(( x %= 5 ))
echo $x
juhi@05d861eca28c5c4:~$
```

2. BASH SCRIPT PROGRAM USING BACKTICK AND EXPR:

```
juhi@05d861eca28c5c4: ~  
echo $x  
juhi@05d861eca28c5c4:~$ gedit operators.sh  
^C  
juhi@05d861eca28c5c4:~$ ./operators.sh  
a=10, b=3  
c is the value of addition c=a+b  
c= 13  
juhi@05d861eca28c5c4:~$ cat operators.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  
echo "c= `expr $a + $b`"  
juhi@05d861eca28c5c4:~$
```

3. CHECK IF THE VALUE IS GREATER THAN 125

```
juhi@05d861eca28c5c4: ~  
juhi@05d861eca28c5c4:~$ chmod 777 greater.sh  
juhi@05d861eca28c5c4:~$ cat greater.sh  
#!/bin/bash  
  
read -p " Enter number : " number  
  
if [ $number -gt 125 ]; then  
    echo "Value is greater than 125"  
else  
    echo "value is lesser than 125"  
fi  
juhi@05d861eca28c5c4:~$ ./greater.sh  
Enter number : 123  
value is lesser than 125  
juhi@05d861eca28c5c4:~$ ./greater.sh  
Enter number : 342  
Value is greater than 125  
juhi@05d861eca28c5c4:~$ _
```

4. IF STATEMENT WITH A SIMPLE SCENARIO OF COMPARING TWO STRINGS:

```
juhi@05d861eca28c5c4: ~  
juhi@05d861eca28c5c4:~$ gedit greater.sh  
^C  
juhi@05d861eca28c5c4:~$ ./greater.sh  
true condition  
juhi@05d861eca28c5c4:~$ cat greater.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  
juhi@05d861eca28c5c4:~$ _
```

5. COMPARE NUMBERS BY USING THE IF STATEMENT:

```
juhi@05d861eca28c5c4: ~  
juhi@05d861eca28c5c4:~$ touch example3.sh  
juhi@05d861eca28c5c4:~$ chmod 777 example3.sh  
juhi@05d861eca28c5c4:~$ gedit example3.sh  
^C  
juhi@05d861eca28c5c4:~$ ./example3.sh  
10 is greater than 3.  
3 is less than 10.  
10 is equal to 10.  
juhi@05d861eca28c5c4:~$ cat example3.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 (lesser than) is true  
if [ 3 -lt 10 ];  
then  
echo "3 is less than 10."  
fi  
  
#if condition (lesser 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  
juhi@05d861eca28c5c4:~$
```

6. AND OPERATOR TO INCLUDE MULTIPLE CONDITIONS IN THE IF EXPRESSION

```
juhi@05d861eca28c5c4: ~  
juhi@05d861eca28c5c4:~$ touch example4.sh  
juhi@05d861eca28c5c4:~$ chmod 777 example4.sh  
juhi@05d861eca28c5c4:~$ gedit example4.sh  
^C  
juhi@05d861eca28c5c4:~$ ./example4.sh  
Conditions are true  
juhi@05d861eca28c5c4:~$ cat example4.sh  
#!/bin/bash  
  
# TRUE && TRUE  
if [ 8 -gt 6 ] && [ 10 -eq 10 ];  
then  
echo "Conditions are true"  
fi  
  
# TRUE && FALSE  
if [ "mylife" == "mylife" ] && [ 3 -gt 10 ];  
then  
echo "Conditions are false"  
fi  
juhi@05d861eca28c5c4:~$ _
```

7. USE OR OPERATOR TO INCLUDE MULTIPLE CONDITIONS IN THE IF EXPRESSION:

```
juhi@05d861eca28c5c4: ~  
juhi@05d861eca28c5c4:~$ touch example5.sh  
juhi@05d861eca28c5c4:~$ chmod 777 example5.sh  
juhi@05d861eca28c5c4:~$ gedit example5.sh  
^C  
juhi@05d861eca28c5c4:~$ ./example5.sh  
Condition is true.  
juhi@05d861eca28c5c4:~$ cat example5.sh  
#!/bin/bash  
  
# TRUE || FALSE  
if [ 8 -gt 7 ] || [ 10 -eq 3 ];  
then  
echo " Condition is true. "  
fi  
  
# FALSE || FALSE  
if [ "mylife" == "yourlife" ] || [ 3 -gt 10 ];  
then  
echo " Condition is false. "  
fi  
juhi@05d861eca28c5c4:~$ _
```

8. USE AND AND OR TO INCLUDE MULTIPLE CONDITIONS IN THE IF EXPRESSION

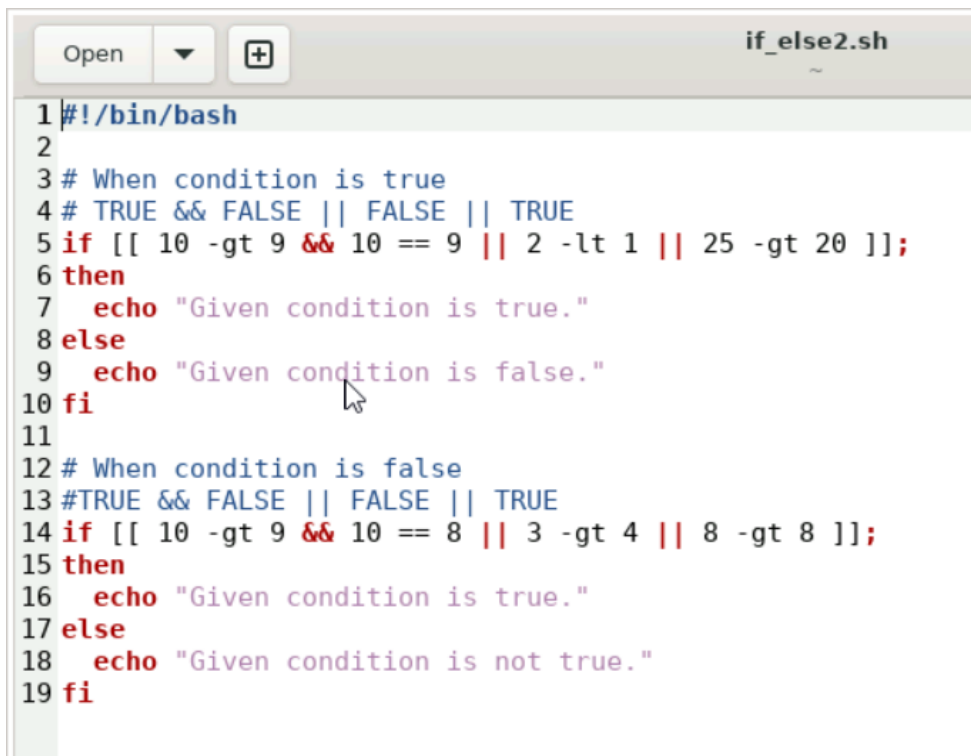
```
juhi@05d861eca28c5c4: ~  
juhi@05d861eca28c5c4:~$ touch example6.sh  
juhi@05d861eca28c5c4:~$ chmod 777 example6.sh  
juhi@05d861eca28c5c4:~$ gedit example6.sh  
^C  
juhi@05d861eca28c5c4:~$ ./example6.sh  
Condition is true.  
juhi@05d861eca28c5c4:~$ cat example6.sh  
#!/bin/bash  
  
# TRUE && 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  
juhi@05d861eca28c5c4:~$ _
```

9. IF-ELSE STATEMENT

```
juhi@05d861eca28c5c4: ~  
juhi@05d861eca28c5c4:~$ touch if_else.sh  
juhi@05d861eca28c5c4:~$ chmod 777 if_else.sh  
juhi@05d861eca28c5c4:~$ gedit if_else.sh  
^C  
juhi@05d861eca28c5c4:~$ ./if_else.sh  
10 is greater than 3.  
3 is not greater than 10.  
juhi@05d861eca28c5c4:~$ cat else.sh  
cat: else.sh: No such file or directory  
juhi@05d861eca28c5c4:~$ cat if_else.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  
juhi@05d861eca28c5c4:~$ _
```

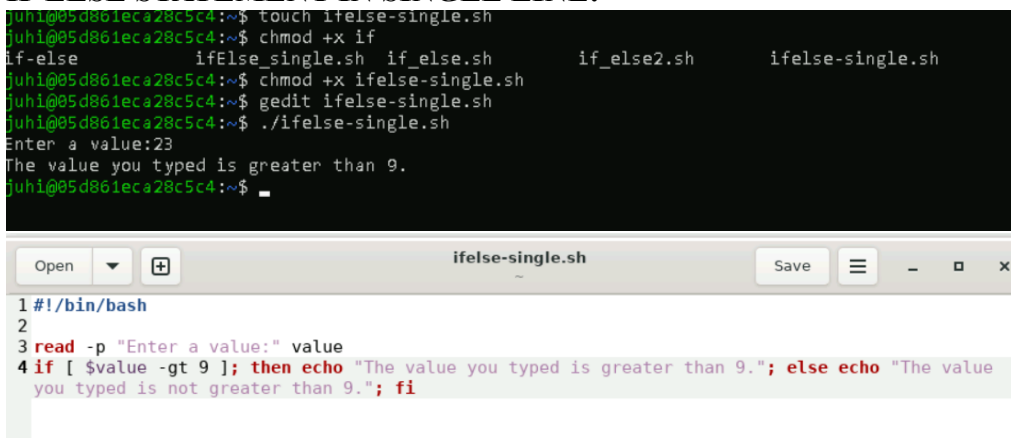
10. MULTIPLE CONDITIONS WITH THE IF-ELSE STATEMENT

```
juhi@05d861eca28c5c4: ~  
juhi@05d861eca28c5c4:~$ touch if_else2.sh  
juhi@05d861eca28c5c4:~$ chmod 777 if_else2.sh  
juhi@05d861eca28c5c4:~$ gedit if_else2.sh  
^C  
juhi@05d861eca28c5c4:~$ ./if_else2.sh  
Given condition is true.  
Given condition is not true.  
juhi@05d861eca28c5c4:~$ _
```

```
1#!/bin/bash
2
3# When condition is true
4# TRUE && FALSE || FALSE || TRUE
5if [[ 10 -gt 9 && 10 == 9 || 2 -lt 1 || 25 -gt 20 ]];
6then
7    echo "Given condition is true."
8else
9    echo "Given condition is false."
10fi
11
12# When condition is false
13#TRUE && FALSE || FALSE || TRUE
14if [[ 10 -gt 9 && 10 == 8 || 3 -gt 4 || 8 -gt 8 ]];
15then
16    echo "Given condition is true."
17else
18    echo "Given condition is not true."
19fi
```

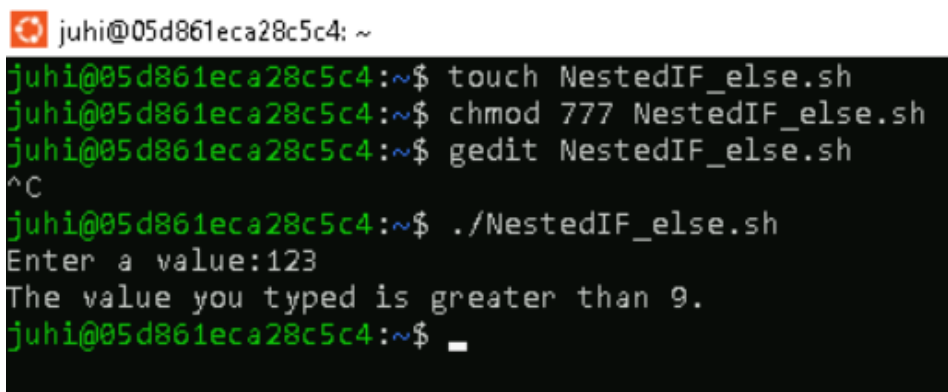
11. IF ELSE STATEMENT IN SINGLE LINE:



```
juhi@05d861eca28c5c4:~$ touch ifelse-single.sh
juhi@05d861eca28c5c4:~$ chmod +x if ifelse-single.sh
if-else      ifElse_single.sh  if_else.sh      if_else2.sh      ifelse-single.sh
juhi@05d861eca28c5c4:~$ chmod +x ifelse-single.sh
juhi@05d861eca28c5c4:~$ gedit ifelse-single.sh
juhi@05d861eca28c5c4:~$ ./ifelse-single.sh
Enter a value:23
The value you typed is greater than 9.
juhi@05d861eca28c5c4:~$
```

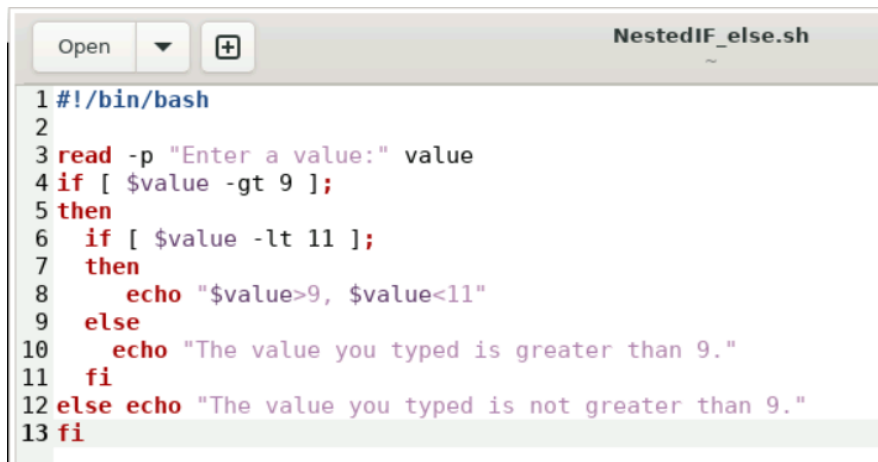
```
1#!/bin/bash
2
3read -p "Enter a value:" value
4if [ $value -gt 9 ]; then echo "The value you typed is greater than 9."; else echo "The value
you typed is not greater than 9."; fi
```

12. NESTED IF ELSE:



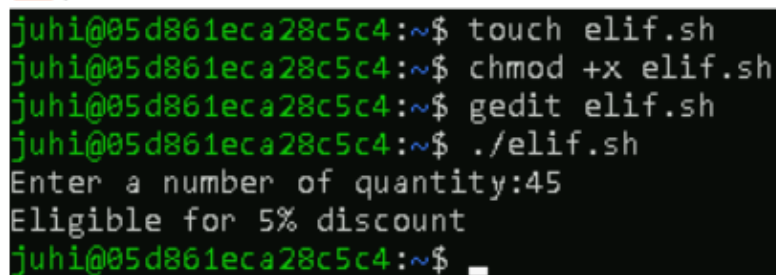
```
juhi@05d861eca28c5c4:~$ touch NestedIF_else.sh
juhi@05d861eca28c5c4:~$ chmod 777 NestedIF_else.sh
juhi@05d861eca28c5c4:~$ gedit NestedIF_else.sh
^C
juhi@05d861eca28c5c4:~$ ./NestedIF_else.sh
Enter a value:123
The value you typed is greater than 9.
juhi@05d861eca28c5c4:~$
```

```
1#!/bin/bash
2
3read -p "Enter a value:" value
4if [ $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
```

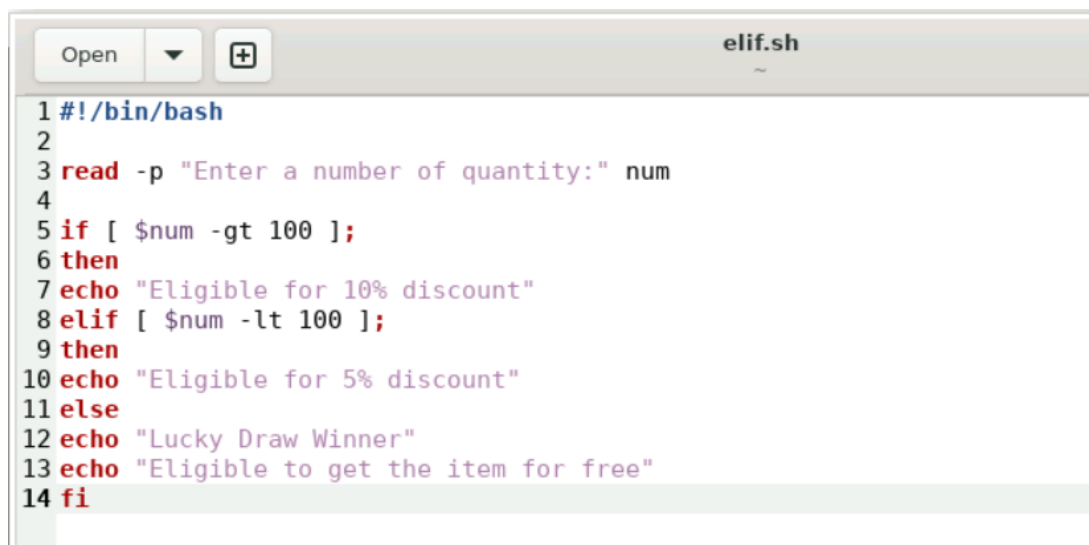


```
1 #!/bin/bash
2
3 read -p "Enter a value:" value
4 if [ $value -gt 9 ];
5 then
6     if [ $value -lt 11 ];
7     then
8         echo "$value>9, $value<11"
9     else
10        echo "The value you typed is greater than 9."
11    fi
12 else echo "The value you typed is not greater than 9."
13 fi
```

13. ELIF STATEMENT:

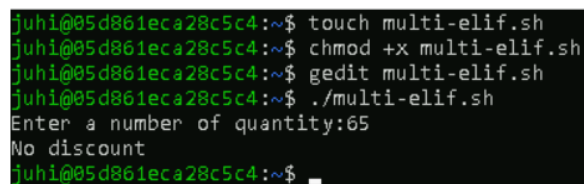


```
juhi@05d861eca28c5c4:~$ touch elif.sh
juhi@05d861eca28c5c4:~$ chmod +x elif.sh
juhi@05d861eca28c5c4:~$ gedit elif.sh
juhi@05d861eca28c5c4:~$ ./elif.sh
Enter a number of quantity:45
Eligible for 5% discount
juhi@05d861eca28c5c4:~$
```



```
1 #!/bin/bash
2
3 read -p "Enter a number of quantity:" num
4
5 if [ $num -gt 100 ];
6 then
7     echo "Eligible for 10% discount"
8 elif [ $num -lt 100 ];
9 then
10    echo "Eligible for 5% discount"
11 else
12    echo "Lucky Draw Winner"
13    echo "Eligible to get the item for free"
14 fi
```

14. MULTIPLE CONDITIONS WITH ELIF STATEMENT:



```
juhi@05d861eca28c5c4:~$ touch multi-elif.sh
juhi@05d861eca28c5c4:~$ chmod +x multi-elif.sh
juhi@05d861eca28c5c4:~$ gedit multi-elif.sh
juhi@05d861eca28c5c4:~$ ./multi-elif.sh
Enter a number of quantity:65
No discount
juhi@05d861eca28c5c4:~$
```

Open ▾ + *multi-elif.sh Save ≡

```
1#!/bin/bash
2
3read -p "Enter a number of quantity:" num
4
5if [ $num -gt 200 ];
6then
7echo "Eligible for 20% discount"
8
9elif [[ $num == 200 || $num == 100 ]];
10then
11echo "Lucky Draw Winner"
12echo "Eligible to get the item for free"
13
14elif [[ $num -gt 100 && $num -lt 200 ]];
15then
16echo "Eligible for 10% discount"
17
18elif [ $num -lt 100 ];
19then
20echo "No discount"
21fi |
```