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BASH ASSIGNMENT

1) BASH – IF

1. **Entered value greater than a number**

```
karanamteja@334a7a24d06950c:~$ cat p1.sh
read -p " Enter number : " number
if [ $number -gt 125 ]
then
echo "Value is greater than 125"
fi
karanamteja@334a7a24d06950c:~$ nano p1.sh
karanamteja@334a7a24d06950c:~$ chmod +x p1.sh
karanamteja@334a7a24d06950c:~$ ./p1.sh
 Enter number : 300
Value is greater than 125
```

2. **Equal strings**

```
karanamteja@334a7a24d06950c:~$ nano p2.sh
karanamteja@334a7a24d06950c:~$ chmod +x p2.sh
karanamteja@334a7a24d06950c:~$ ./p2.sh
true condition
karanamteja@334a7a24d06950c:~$ cat p2.s
if [ "myfile" == "myfile" ];
then
echo "true condition"
fi
if [ "myfile" == "yourfile" ];
then
echo "false condition"
fi
```

3. **Operators using if statements**

```
karanamteja@334a7a24d06950c:~$ nano p3.sh
karanamteja@334a7a24d06950c:~$ chmod +x p3.sh
karanamteja@334a7a24d06950c:~$ cat p3.sh
if [ 10 -gt 3 ];
then
echo "10 is greater than 3."
fi
if [ 3 -gt 10 ];
then
echo "3 is not greater than 10."
fi
if [ 3 -lt 10 ];
then
echo "3 is less than 10."
fi
if [ 10 -lt 3 ];
then
echo "10 is not less than 3."
fi
if [ 10 -eq 10 ];
then
echo "10 is equal to 10."
fi
if [ 10 -eq 9 ];
then
echo "10 is not equal to 9"
fi
karanamteja@334a7a24d06950c:~$ ./p3.sh
10 is greater than 3.
3 is less than 10.
10 is equal to 10.
```

4. **AND operator**

```
karanamteja@334a7a24d06950c:~$ nano p4.sh
karanamteja@334a7a24d06950c:~$ chmod +x p4.sh
karanamteja@334a7a24d06950c:~$ ./p4.sh
Conditions are true
karanamteja@334a7a24d06950c:~$ nano p3.sh
karanamteja@334a7a24d06950c:~$ nano p4.sh
karanamteja@334a7a24d06950c:~$ cat p4.sh
if [ 8 -gt 6 ] && [ 10 -eq 10 ];
then
echo "Conditions are true"
fi
if [ "mylife" == "mylife" ] && [ 3 -gt 10 ];
then
echo "Conditions are false"
fi
```

5. **OR operator**

```
karanamteja@334a7a24d06950c:~$ nano p5.sh
karanamteja@334a7a24d06950c:~$ chmod +x p5.sh
karanamteja@334a7a24d06950c:~$ cat p5.sh
if [ 8 -gt 7 ] || [ 10 -eq 3 ];
then
echo " Condition is true. "
fi

if [ "mylife" == "yourlife" ] || [ 3 -gt 10 ];
then
echo " Condition is false. "
fi
karanamteja@334a7a24d06950c:~$ ./p5.sh
 Condition is true.
```

6. **AND & OR**

```
karanamteja@334a7a24d06950c:~$ nano p6.sh
karanamteja@334a7a24d06950c:~$ chmod +x p6.sh
karanamteja@334a7a24d06950c:~$ cat p6.sh
if [[ 10 -eq 10 && 5 -gt 4 || 3 -eq 4 || 3 -lt 6 ]];
then
echo "Condition is true."
fi

if [[ 8 -eq 8 && 8 -gt 10 || 9 -lt 5 ]];
then
echo "Condition is false"
fi
karanamteja@334a7a24d06950c:~$ ./p6.sh
Condition is true.
```

2) ARITHMETIC OPERATORS

7. **Bash scripting arithmetic operators**

```
karanamteja@334a7a24d06950c:~$ cat p8.sh
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
```

```
karanamteja@334a7a24d06950c:~$ vi p8.sh
karanamteja@334a7a24d06950c:~$ chmod +x p8.sh
karanamteja@334a7a24d06950c:~$ ./p8.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
```

8. **Let construction**

```
karanamteja@334a7a24d06950c:~$ vi p9.sh
karanamteja@334a7a24d06950c:~$ chmod +x p9.sh
karanamteja@334a7a24d06950c:~$ ./p9.sh
Addition
z= 16
Substraction
z= 4
Multiplication
z = 60
Division
z = 1
Exponentiation
z = 1000000
Modular Division
z = 4
Incrementing x by 5, then x=
15
Decrementing x by 5, then x=
10
Multiply of x by 5, then x=
50
Dividing x by 5, x=
10
Remainder of Dividing x by 5, x=
0
```

```
karanamteja@334a7a24d06950c:~$ cat p9.sh
x=10
y=6
z=0

echo "Addition"
let "z = $(( x + y ))"
echo "z= $z"

echo "Substraction"
let "z = $((x - y ))"
echo "z= $z"

echo "Multiplication"
let "z = $(( x * y ))"
echo "z = $z"

echo "Division"
let "z = $(( x / y ))"
echo "z = $z"

echo "Exponentiation"
let "z = $(( x ** y ))"
echo "z = $z"

echo "Modular Division"
let "z = $(( x % y ))"
echo "z = $z"

let "x += 5"
echo "Incrementing x by 5, then x= "
echo $x

let "x -= 5"
echo "Decrementing x by 5, then x= "
echo $x

let "x *=5"
echo "Multiply of x by 5, then x="
echo $x
```

```
let "x /= 5"
echo "Dividing x by 5, x= "
echo $x

let "x %= 5"
echo "Remainder of Dividing x by 5, x="
echo $x
```

9. **Expr**

```
karanamteja@334a7a24d06950c:~$ vi p10.sh
karanamteja@334a7a24d06950c:~$ chmod +x p10.sh
karanamteja@334a7a24d06950c:~$ ./p10.sh
a=10, b=3
c is the value of addition c=a+b
c= 13
karanamteja@334a7a24d06950c:~$ cat p10.sh
echo "a=10, b=3"
echo "c is the value of addition c=a+b"
a=10
b=3
echo "c= `expr $a + $b`"
karanamteja@334a7a24d06950c:~$
```

3) IF ELSE

10. If else - 1

```
karanamteja@334a7a24d06950c:~$ vi p11.sh
karanamteja@334a7a24d06950c:~$ chmod +x p11.sh
karanamteja@334a7a24d06950c:~$ ./p11.sh
10 is greater than 3.
3 is not greater than 10.
karanamteja@334a7a24d06950c:~$ cat p11.sh
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
```

11. If else – 2

```
karanamteja@334a7a24d06950c:~$ vi p12.sh
karanamteja@334a7a24d06950c:~$ chmod +x p12.sh
karanamteja@334a7a24d06950c:~$ ./p12.sh
Given condition is true.
Given condition is not true.
karanamteja@334a7a24d06950c:~$ cat p12.sh
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


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
```

12. If else – 3 (single line)

```
karanamteja@334a7a24d06950c:~$ vi p13.sh
karanamteja@334a7a24d06950c:~$ ./p13.sh
Enter a value : 25
The value you typed is greater than 9.
karanamteja@334a7a24d06950c:~$ cat p13.sh
read -p "Enter a value : " value
if [ $value -gt 9 ]; then echo "The value you typed is greater than 9."; else
 echo "The value you typed is not greater than 9."; fi
karanamteja@334a7a24d06950c:~$
```

13. **Bash nested if else**

```
karanamteja@334a7a24d06950c:~$ vi p14.sh
karanamteja@334a7a24d06950c:~$ chmod +x p14.sh
karanamteja@334a7a24d06950c:~$ ./p14.sh
Enter a value:10
10>9, 10<11
karanamteja@334a7a24d06950c:~$ cat p14.sh
read -p "Enter a value:" value

if [ $value -gt 9 ];
then
        if [ $value -lt 11 ];
        then
                echo "$value>9, $value<11"
        else
                echo "The value you typed is greater than 9."
        fi
else echo "The value you typed is not greater than 9."
fi
```

4) ELIF

14. Bash elif - 1

```
karanamteja@334a7a24d06950c:~$ vi p15.sh
karanamteja@334a7a24d06950c:~$ chmod +x p15.sh
karanamteja@334a7a24d06950c:~$ ./p15.sh
Enter a number of quantity:110
Eligible for 10% discount
karanamteja@334a7a24d06950c:~$ cat p15.sh
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
```

```
karanamteja@334a7a24d06950c:~$ ./p15.sh
Enter a number of quantity:90
Eligible for 5% discount
karanamteja@334a7a24d06950c:~$ ./p15.sh
Enter a number of quantity:100
Lucky Draw Winner
Eligible to get the item for free
```

15. Bash elif – 2

```
karanamteja@334a7a24d06950c:~$ vi p16.sh
karanamteja@334a7a24d06950c:~$ chmod +x p16.sh
karanamteja@334a7a24d06950c:~$ ./p16.sh
Enter a number of quantity:222
Eligible for 20% discount
karanamteja@334a7a24d06950c:~$ ./p16.sh
Enter a number of quantity:200
Lucky Draw Winner
Eligible to get the item for free
karanamteja@334a7a24d06950c:~$ ./p16.sh
Enter a number of quantity:111
Eligible for 10% discount
karanamteja@334a7a24d06950c:~$ ./p16.sh
Enter a number of quantity:100
Lucky Draw Winner
Eligible to get the item for free
karanamteja@334a7a24d06950c:~$ ./p16.sh
Enter a number of quantity:99
No discount
karanamteja@334a7a24d06950c:~$ cat p16.sh
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 [ $num -lt 100 ];
then
echo "No discount"
fi
karanamteja@334a7a24d06950c:~$
```