Operators

Linux shell programming has the following operators,they compare or evaluate mathematical,logical and relational expression.

Arithmetic Operators

Operator	Example	Descriptions
+	$a + $b	Perform Addition
-	$a - $b	Perform Subtraction
*	$a * $b	Perform Multiplication
/	$a / $b	Perform Division
%	$a % $b	Return Reminder
^	$a ^ $b	Perform Power value

Arithmetic Operator Example

write a program to perform all arithmetic operation

```
#Create a New File With .sh

$vi file1.sh

#Write Your Script Here

echo "Enter Number 1:"
read no1

echo "Enter Number 2:"
read no2

$add = `$expr $no1 + $no2'

$sub = `$expr $no1 - $no2'

$mul = `$expr $no1 \* $no2'

$div = `$expr $no1 / $no2'

echo "Addition is = $add"

echo "Subtraction = $sub"

echo "Multiplication = $mul"

echo "Division = $div"

echo "By Veewom"

# Press ESC Key on Keyboard
```

Output

```
#Execute Your Script

$vi sh file1.sh

Enter Number 1: 50
Enter Number 2: 50

Addition = 100
Subtraction = 0
Multiplication = 2500
Division = 1
By Veewom
```

Relational Operators

Operator	Example	Descriptions
-eq	$a -eq $b	equal to (==)
-ne	$a -ne $b	not equal to (!=)
-lt	$a -lt $b	less than (<)
-le	$a -le $b	less than or equal to (<=)
-gt	$a -gt $b	greater than (>)
-gt	$a -gt $b	greater than or equal to (>=)

Logical Operators

Operator	Example	Descriptions
!	!$b	Logical NOT
-a	$a -a $b	logical AND
-o	$a -o $b	Logical OR

String Operators

Operator	Example	Descriptions
=	$str = $str	To check the value of two operands are equal or not.is yes,then condition will be true.
!=	$str != $str	To check the value of two operands are equal or not.if they are not equal,then condition will be true
-Z	-z $str	to check if the given string operands size is zero.if zero length,then it return true.
-n	-n $str	to check if the given string operand size is non zero.if it is non-zero length,then it return true.
str	str($str)	to check if str is not empty string.if it is an empty string then it returns false.

Test File & Directory Type

Operator	Descriptions
-s file	Non empty file
-f file	is file exist or nomar file and not a directory
-d file	is directory exist and not a file
-w file	is writable
-r file	read-only file
-x file	file is executable