

Bash project

Double parenthesis for arithmetic operations.

```
samim@9819fd877cfb527:~$ sudo nano double.sh
[sudo] password for samim:
samim@9819fd877cfb527:~$ sudo chmod double.sh
chmod: missing operand after 'double.sh'
Try 'chmod --help' for more information.
samim@9819fd877cfb527:~$ sudo chmod +x double.sh
samim@9819fd877cfb527:~$ ./double.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
```

```
samim@9819fd877cfb527: ~
GNU nano 7.2
#!/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
```

Bash project

Let command in bash script.

```
samim@9819fd877cfb527:~$ sudo nano let.sh
samim@9819fd877cfb527:~$ ./let.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
```

```

samim@9819fd877cfb527: ~
GNU nano 7.2
#!/bin/bash

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
```

Bash project

Backticks and expr in bash script

```
samim@9819fd877cfb527:~$ sudo nano back.sh
samim@9819fd877cfb527:~$ sudo chmod back.sh
chmod: missing operand after 'back.sh'
Try 'chmod --help' for more information.
samim@9819fd877cfb527:~$ sudo chmod +x back.sh
samim@9819fd877cfb527:~$ ./back.sh
a=10, b=3
c is the value of addition c=a+b
c= 13
samim@9819fd877cfb527:~$ _
```

 samim@9819fd877cfb527: ~

```
GNU nano 7.2
#!/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`"
```