Shell Scripting

hitendra@hitendra-VM: ~/Programs

```
GNU nano 6.2                          program1.sh
#!/bin/bash
#This is basic bash script
echo "Hello world"
```

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```
hitendra@hitendra-VM:~/Programs$ nano program1.sh
hitendra@hitendra-VM:~/Programs$ ./program1.sh
bash: ./program1.sh: Permission denied
hitendra@hitendra-VM:~/Programs$ chmod +x program1.sh
hitendra@hitendra-VM:~/Programs$ ./program1.sh
Hello world
hitendra@hitendra-VM:~/Programs$
```

.

Addition of n numbers when number given as arguments

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```
GNU nano 6.2                          program2.sh
#This is program to take arguments from user and use it in program

echo "Addition of $# arguments shared by user"
sum=0
num=$#
arg=("$@")
for((i=0;i<$num;i++))
do
sum=$((sum + ${arg[i]}))
done
echo "The sum of $# arguments is $sum"
```

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```
hitendra@hitendra-VM:~/Programs$ nano program2.sh
hitendra@hitendra-VM:~/Programs$ ./program2.sh 3 5 6 3
Addition of 4 arguments shared by user
The sum of 4 arguments is 17
hitendra@hitendra-VM:~/Programs$
```
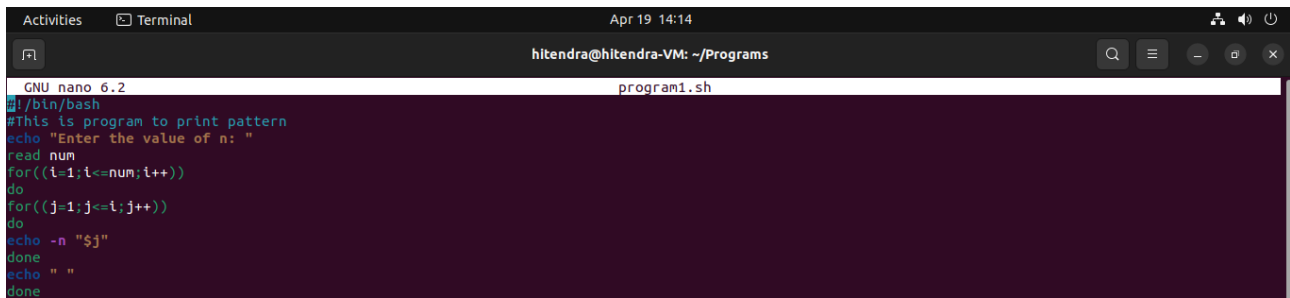
Use of array:

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```
hitendra@hitendra-VM:~/Programs$ chmod +x array.sh
hitendra@hitendra-VM:~/Programs$ ./array.sh
This
is
new
Program
hitendra@hitendra-VM:~/Programs$
```
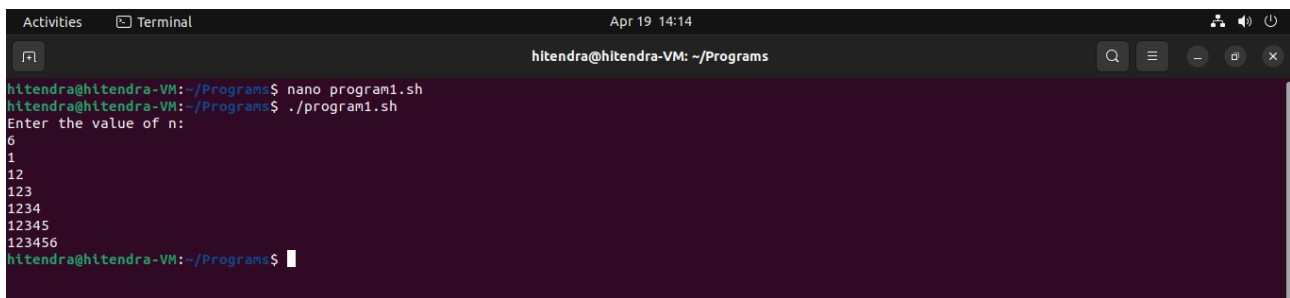
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```
GNU nano 6.2                          array.sh
#!/bin/bash
declare -a arr1
arr1=("This" "is" "new" "Program")
for ((i=0;i<${#arr1[@]};i++))
do
echo ${arr1[i]}
done
```

1.   Input- bash 01_pattern.sh
       Enter the value of n:6
       Output- The expected pattern is
              1
              1 2
              1 2 3
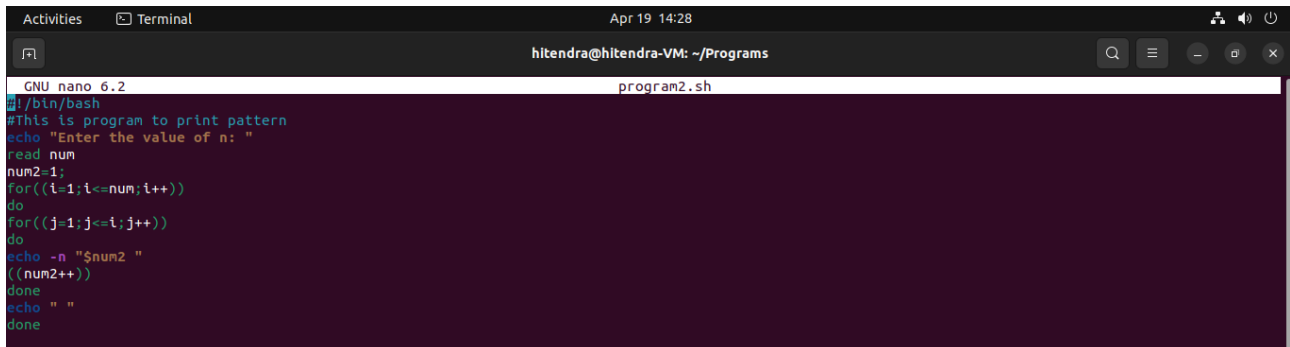   1 2 3 4
              1 2 3 4 5
              1 2 3 4 5 6

2.   Input- bash 02_pattern.sh
       Enter the value of n:4
       Output- The expected pattern is
              1
              2 3
              4 5 6
              7 8 9 10

3. Description-Script for addition of two real numbers
    Input- bash 03_real_add.sh
    Enter the numbers to addition: 4.28 1.21
    Output-   The sum of 4.28 and 1.21 is 5.49

4. Description- Script for arithmetic calculator using command line arguments
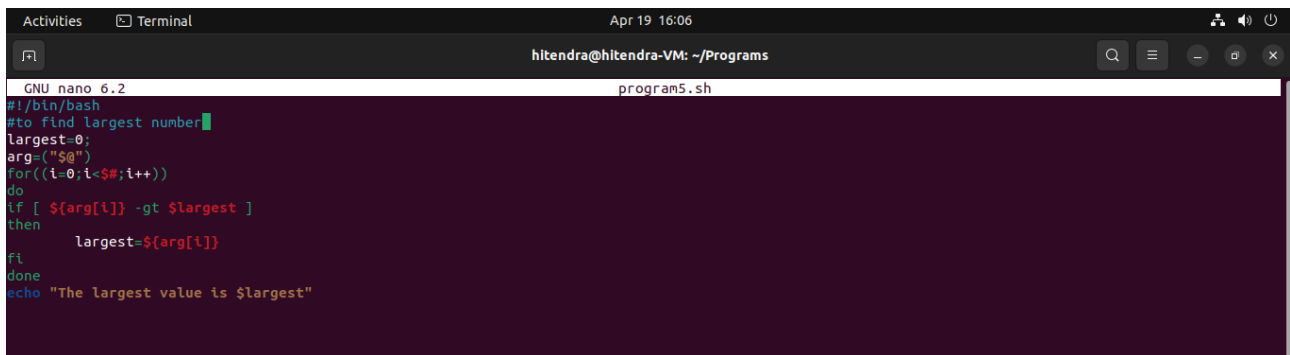   Input- bash 04_calculator.sh 1.2 + 2.6
    Output- The sum of 1.2 and 2.6 is 3.8

5.   Description- Script to compare larger integer values from a 'n' number of arguments using command line arguments
        Input- bash 05_largest.sh 1 3 8 6 5 7 9 2
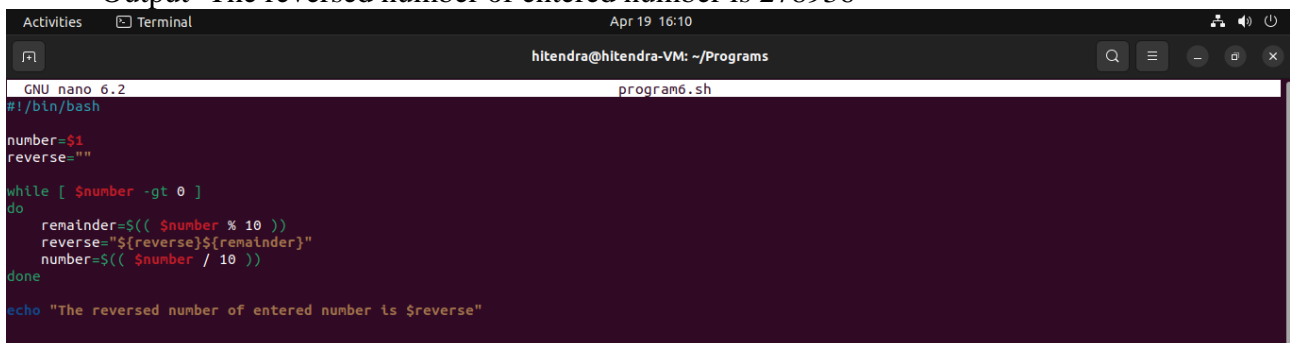   Output- The largest value is 9

```bash
#!/bin/bash
#to find largest number
largest=0;
arg=("$@")
for((i=0;i<$#;i++))
do
if [ ${arg[i]} -gt $largest ]
then
        largest=${arg[i]}
fi
done
echo "The largest value is $largest"
```

```
hitendra@hitendra-VM:~/Programs$ nano program5.sh
hitendra@hitendra-VM:~/Programs$ ./program5.sh 1 3 8 6 5 7 9 2
The largest value is 9
hitendra@hitendra-VM:~/Programs$
```

6.   Description- Script to print a given number in reverse order.
        Input- bash 06_reverse.sh 639872
        Output- The reversed number of entered number is 278936

```bash
#!/bin/bash

number=$1
reverse=""

while [ $number -gt 0 ]
do
    remainder=$(( $number % 10 ))
    reverse="${reverse}${remainder}"
    number=$(( $number / 10 ))
done

echo "The reversed number of entered number is $reverse"
```