

1. Write a shell script that takes a command line argument and reports on whether it is directory, a file, or something else.

Shell Script

```
1#!/bin/bash
2
3echo " Enter file "
4read str
5if test -f $str
6then
7  echo " File exist & it is an ordinary file "
8elif test -d $str
9then
10 echo " Directory File "
11else
12 echo "Not exist"
13fi
14if test -c $str
15then
16 echo "Character device file "
17fi
```

Output

```
shiyas@shiyas-VirtualBox:~$ ./prgm1.sh
Enter file : example
File exist & it is an ordinary file
shiyas@shiyas-VirtualBox:~$ ./prgm1.sh
Enter file : Documents
Directory File
shiyas@shiyas-VirtualBox:~$ █
```

2. Write a shell script that computes the gross salary of an employee according to the following rules:

- i) If basic salary < 1500 then HRA = 10% of the basic and DA = 90% of the basic.
- ii) If basic salary >= 1500 then HRA = Rs 500 and DRA = 98% of the basic.

Shell Script

```
1#!/bin/bash
2
3echo -n "Enter the basic salary : "
4read salary
5if [ $salary -lt 1500 ]
6then
7    hra=`expr $salary \* 10`
8    hra=`expr $hra / 100`
9    da=`expr $salary \* 90 / 100`
10   gross=`expr $hra + $da + $salary`
11   echo "HRA           : $hra"
12   echo "DA           : $da"
13   echo "Gross Salary  : $gross"
14else
15   hra=500
16   da=`expr $salary \* 98 / 100`
17
18   gross=`expr $hra + $da + $salary`
19   echo "HRA           : $hra"
20   echo "DA           : $da"
21   echo "Gross Salary  : $gross"
22fi
23
```

Output

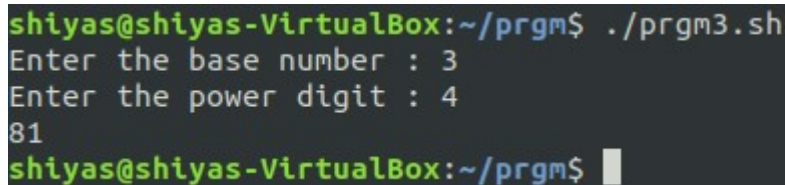
```
shiyas@shiyas-VirtualBox:~/prgm$ ./prgm2.sh
Enter the basic salary : 2500
HRA           : 500
DA            : 2450
Gross Salary  : 5450
shiyas@shiyas-VirtualBox:~/prgm$ ./prgm2.sh
Enter the basic salary : 1000
HRA           : 100
DA            : 900
Gross Salary  : 2000
shiyas@shiyas-VirtualBox:~/prgm$
```

3. Write a shell script that accepts two integers as its arguments and computes the value of the first number raised to the power of the second number.

Shell Scripts

```
1#!/bin/bash
2
3echo -n "Enter the base number : "
4read N
5echo -n "Enter the power digit : "
6read P
7sq=`expr $N^$P | bc`
8echo $sq
9
```

Output



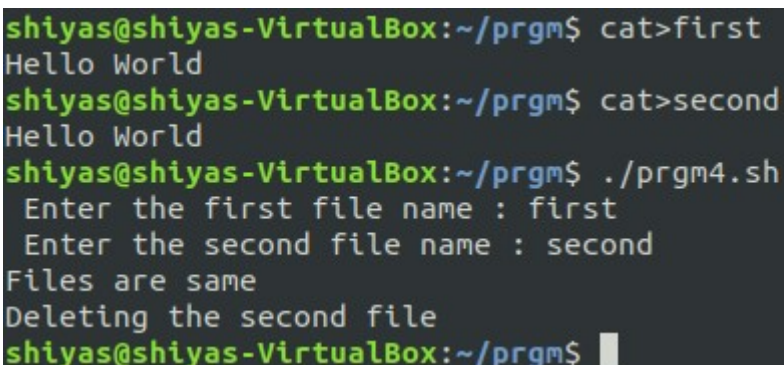
```
shiyas@shiyas-VirtualBox:~/prgm$ ./prgm3.sh
Enter the base number : 3
Enter the power digit : 4
81
shiyas@shiyas-VirtualBox:~/prgm$
```

4. Write a shell script which receives two file names as arguments. It should check whether the two file contents are same or not. If they are same then second file should be deleted.

Shell Script

```
1#!/bin/bash
2
3echo -n " Enter the first file name : "
4read file1
5echo -n " Enter the second file name : "
6read file2
7if cmp $file1 $file2
8then
9    rm $file2
10    echo "Files are same"
11    echo "Deleting the second file"
12else
13    echo " Files are not same "
14fi
```

Output



```
shiyas@shiyas-VirtualBox:~/prgm$ cat>first
Hello World
shiyas@shiyas-VirtualBox:~/prgm$ cat>second
Hello World
shiyas@shiyas-VirtualBox:~/prgm$ ./prgm4.sh
Enter the first file name : first
Enter the second file name : second
Files are same
Deleting the second file
shiyas@shiyas-VirtualBox:~/prgm$
```

5. Write a shell script for Calculator

Shell Script

```
1#!/bin/bash
2
3
4echo " Enter two numbers "
5echo -n " Enter first number : "
6read a
7echo -n " Enter second number : "
8read b
9x=0
10while [ $x -ne 6 ]
11do
12    echo " "
13    echo "                      CALCULATOR "
14    echo " -----"
15    echo " 1. Addition"
16    echo " 2. Subtraction"
17    echo " 3. Multiplication "
18    echo " 4. Division "
19    echo " 5. Remainder "
20    echo " 6. Exit"
21    echo -n "Select an option : "
22    read x
23    if [ $x -eq 1 ]
24    then
25        sum=`expr $a + $b`
26        echo "          SUM : $sum"
27    elif [ $x -eq 2 ]
28    then
29        diff=`expr $a - $b`
30        echo "          DIFFERENCE : $diff"
31    elif [ $x -eq 3 ]
32    then
33        mul=`expr $a \* $b`
34        echo "          PRODUCT : $mul"
35    elif [ $x -eq 4 ]
36    then
37        quo=`expr $a / $b`
38        echo "          QUOTIENT : $quo"
39    elif [ $x -eq 5 ]
40    then
41        rem=`expr $a % $b`
42        echo "          REMAINDER : $rem"
43    elif [ $x -eq 6 ]
44    then
45        echo " Program is exiting....."
46    else
47        echo "Invalid option"
48        echo "Try again"
49    fi
50done
51
```

Output

```
shiyas@shiyas-VirtualBox:~/prgm$ ./prgm5.sh
```

```
Enter two numbers
```

```
Enter first number : 10
```

```
Enter second number : 5
```

```
-----  
CALCULATOR  
-----
```

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Remainder
6. Exit

```
Select an option : 1
```

```
SUM : 15
```

```
-----  
CALCULATOR  
-----
```

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Remainder
6. Exit

```
Select an option : 2
```

```
DIFFERENCE : 5
```

```
-----  
CALCULATOR  
-----
```

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Remainder
6. Exit

```
Select an option : 3
```

```
PRODUCT : 50
```

```
-----  
CALCULATOR  
-----
```

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Remainder
6. Exit

```
Select an option : 4
```

```
QUOTIENT : 2
```

```
-----  
CALCULATOR  
-----
```

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Remainder
6. Exit

```
Select an option : 5
```

```
REMAINDER : 0
```

```
-----  
CALCULATOR  
-----
```

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Remainder
6. Exit

```
Select an option : 6
```

```
Program is exiting.....
```

```
shiyas@shiyas-VirtualBox:~/prgm$
```