1. Write a shell script to print the numbers from 1 to 10.

```
$ vi q1.sh
#!/bin/bash
i=1
while [[ $i -le 10 ]]
do
      echo "$i"
      i=$((i+1))
done
```

```
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q1.sh
1
2
3
4
5
6
7
8
9
10
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$
```

2. Write a shell script to ask the user for their name and print a greeting message.

```
$ vi q2.sh
#!/bin/bash
read -p "Enter your name : " naam
echo "Welcome $naam"
```

```
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q2.sh
Enter your name : Surya Dev Singh Jamwal
Welcome Surya Dev Singh Jamwal
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$
```

3. Write a shell script to check if a file exists in the current directory and print a message accordingly.

```
$ vi q3.sh
#!/bin/bash
read -p "Enter file name to check its existence : " fnam
if [ -f $fnam ]
then
      echo "$fnam exists in current dir"
else
      echo "$fnam does not exist in current dir"
fi
```

```
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q3.sh
Enter file name to check its existence : abc.txt
abc.txt exists in current dir
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q3.sh
Enter file name to check its existence : abb.txt
abb.txt does not exist in current dir
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$
```

4. Write a shell script to calculate the sum of two numbers entered by the user.

```
$ vi q4.sh
```

```
#!/bin/bash
read -p "Enter a : " a
read -p "Enter b : " b
c=$((a+b))
echo "sum of $a & $b is $c"
```

```
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q4.sh
Enter a : 3
Enter b : 5
sum of 3 & 5 is 8
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$
```

5. Write a shell script to find the largest number among three numbers entered by the user.

```
$ vi q5.sh
#!/bin/bash
read -p "Enter a : " a
read -p "Enter b : " b
read -p "Enter c : " c
if [ $a -eq $b -a $b -eq $c -a $c -eq $a ]
then
     echo "$a, $b, $c are equal"
elif [ $a -eq $b -o $b -eq $c -o $c -eq $a ]
then
     echo "any two are equal among three"
elif [ $a -gt $b -a $a -gt $c ]
then
     echo "$a is greater"
elif [ $b -gt $a -a $b -gt $c ]
then
     echo "$b is greater"
elif [ $c -gt $a -a $c -gt $b ]
then
     echo "$c is greater"
else
     echo "wrong inputs, enter numbers"
fi
```

```
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q5.sh
Enter a : 1
Enter b : 2
Enter c : 2
any two are equal among three
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q5.sh
Enter a : 1
Enter b : 1
Enter c : 1
1, 1, 1 are equal
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q5.sh
Enter a : 1
Enter b : 2
Enter c : 3
3 is greater
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q5.sh
Enter a : 3
Enter b : 2
Enter c : 1
3 is greater
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q5.sh
Enter a : 4
Enter b : 9
Enter c : 1
9 is greater
```

```
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q5.sh
Enter a : a
Enter b : 5
Enter c : 4
./q5.sh: line 5: [: a: integer expression expected
./q5.sh: line 8: [: a: integer expression expected
./q5.sh: line 11: [: a: integer expression expected
./q5.sh: line 14: [: a: integer expression expected
./q5.sh: line 17: [: a: integer expression expected
wrong inputs, enter numbers
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$
```

6. Write a shell script to check if a number is odd or even.

```
$ vi q6.sh
#!/bin/bash
read -p "Enter number to check even or odd : " num
if [ $num = 0 ]
then
      echo "$num is zero"
elif [ $((num%2)) = 0 ]
then
      echo "$num is even"
else
      echo "$num is odd"
fi
```

```
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q6.sh
Enter number to check even or odd : 5
5 is odd
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q6.sh
Enter number to check even or odd : 2
2 is even
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q6.sh
Enter number to check even or odd : 1
1 is odd
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q6.sh
Enter number to check even or odd : 0
0 is zero
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$
```

7. Write a shell script to display the contents of a file line by line.

```
$ vi q7.sh
#!/bin/bash
read -p "Enter filename you want to read : " fil1
cat $fil1
```

```
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q7.sh
Enter filename you want to read : abc.txt
This is abc.txt
You're reading line2 from abc.txt
Now you're reading line3 from abc.txt
you've reached line4 of abc.txt
this is line5 from abc.txt
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$
```

8. Write a shell script to count the number of files in a directory.

```
$ vi q8.sh
#!/bin/bash
read -p "Enter dir path : " dirr
find . -type f | wc -l
```

```
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q8.sh
Enter dir path : ./
10
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$
```

9. Write a shell script to print the current date and time.

```
$ vi q9.sh
#!/bin/bash
date
```

```
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q9.sh
Sat Mar 25 23:44:26 IST 2023
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$
```

10. Write a shell script to rename all files with a certain extension in a directory.

```
$
#!/bin/bash
```

11. Write a shell script to print the even numbers from 1 to 20.

```
$ vi q11.sh
#!/bin/bash
for ((i=1; i<=20; i++))
do
      if [ $((i%2)) = 0 ]
      then
            echo "$i"
      fi
done
```

```
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ./q11.sh
2
4
6
8
10
12
14
16
18
20
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$
```

12. Write a shell script to find the factorial of a number entered by the user.

```
$ vi q12.sh
#!/bin/bash
read -p "Enter a number to find factorial : " num
fact=1
for ((i=num; i>0; i--))
do
      fact=$((fact*i))
done
echo "Factorial of $num is $fact"
```

```
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ bash q12.sh
Enter a number to find factorial : 5
Factorial of 5 is 120
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ bash q12.sh
Enter a number to find factorial : 7
Factorial of 7 is 5040
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ bash q12.sh
Enter a number to find factorial : 0
Factorial of 0 is 1
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$
```

13. Write a shell script to create a backup of a file with a timestamp in the filename.

```
$
#!/bin/bash
```

14. Write a shell script to check if a directory exists and create it if it doesn't.

```
$ vi q14.sh
#!/bin/bash
read -p "Enter directory name : " dnam
if [[ -d $dnam ]]
then
      echo "$dnam directory exists"
else
      echo "$dnam directory doesn't exist"
      mkdir $dnam
fi
```

```
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ bash q14.sh
Enter directory name : sample
sample directory exists
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ bash q14.sh
Enter directory name : story
story directory doesn't exist
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ ls
abc.txt  q1.sh   q12.sh  q2.sh  q4.sh  q6.sh  q8.sh  sample
q.sh     q11.sh  q14.sh  q3.sh  q5.sh  q7.sh  q9.sh  story
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$
```

15. Write a shell script to print the last 10 lines of a file.

```
$ vi q15.sh
#!/bin/bash
read -p "Enter file name: " fname
tail -n 10 $fname
```

```
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$ bash q15.sh
Enter file name: abc.txt
lorem Ipsum is simply dummy text of the printing and
typesetting industry. Lorem Ipsum has been the industry's
standard dummy text ever since the 1500s, when an unknown
printer took a galley of type and scrambled it to make a
type specimen book. It has survived not only five centuries,
but also the leap into electronic typesetting, remaining
essentially unchanged. It was popularised in the 1960s
with the release of Letraset sheets containing Lorem Ipsum passages,
and more recently with desktop publishing software like
Aldus PageMaker including versions of Lorem Ipsum.
sdevsinx@LAPTOP-PQJF2L1:~/linux_module/assignment3$
```

16. Write a shell script to find the sum of all the numbers in a file.

```
$
#!/bin/bash
```

17. Write a shell script to find the average of a list of numbers in a file.

```
$
#!/bin/bash
```

18. Write a shell script to convert all the filenames in a directory to lowercase.

```
$
#!/bin/bash
```

19. Write a shell script to find and replace a string in a file.

```
$
#!/bin/bash
```

20. Write a shell script to calculate the area of a rectangle, given the length and width entered by the user.

```
$
#!/bin/bash
```

21. Write a shell script to print the Fibonacci series up to a certain number entered by the user.

```
$
#!/bin/bash
```

22. Write a shell script to remove all files in a directory except for those with a certain extension.

```
$
#!/bin/bash
```

23. Write a shell script to check if a string is a palindrome.

```
$
#!/bin/bash
```

24. Write a shell script to find the largest file in a directory.

```
$
#!/bin/bash
```

25. Write a shell script to sort the lines of a file in ascending order.

```
$
#!/bin/bash
```

26. Write a shell script to generate a random number between two given numbers entered by the user.

```
$
#!/bin/bash
```

27. Write a shell script to find the number of occurrences of a string in a file.

```
$
#!/bin/bash
```

28. Write a shell script to find the length of a string entered by the user.

```
$
#!/bin/bash
```

29. Write a shell script to check if a given year is a leap year.

```
$
#!/bin/bash
```

30. Write a shell script to calculate the volume of a cylinder, given the radius and height entered by the user.

```
$
#!/bin/bash
```

31. Write a shell script to search for a pattern in a file and print the matching lines.

```
$
#!/bin/bash
```

32. Write a shell script to convert a CSV file to a TSV file.

```
$
#!/bin/bash
```

33. Write a shell script to find the sum of all the even numbers in a file.

```
$
#!/bin/bash
```

34. Write a shell script to find the number of lines in a file that contain a certain word.

```
$
#!/bin/bash
```

35. Write a shell script to find the second largest number in a list of numbers entered by the user.

```
$
#!/bin/bash
```

36. Write a shell script to find the number of files with a certain extension in a directory and its subdirectories.

```
$
#!/bin/bash
```

37. Write a shell script to find the number of words in a file.

```
$
#!/bin/bash
```

38. Write a shell script to generate a random password of a certain length entered by the user.

```
$
#!/bin/bash
```

39. Write a shell script to check if a file is executable and print a message accordingly.

```
$
#!/bin/bash
```

40. Write a shell script to calculate the average of two numbers entered by the user and round it to two decimal places.

```
$
#!/bin/bash
```

41. Write a shell script to find and remove all duplicate lines in a file.

```
$
#!/bin/bash
```

42. Write a shell script to find the number of lines in a file that start with a certain string.

```
$
#!/bin/bash
```

43. Write a shell script to sort a list of names alphabetically and print the sorted list.

```
$
#!/bin/bash
```

44. Write a shell script to find the number of times a certain command has been executed in the shell history.

```
$
#!/bin/bash
```

45. Write a shell script to check if a file is a directory or a regular file and print a message accordingly.

```
$
#!/bin/bash
```

46. Write a shell script to calculate the area of a triangle, given the base and height entered by the user.

```
$
#!/bin/bash
```

47. Write a shell script to find the number of files in a directory and its subdirectories.

```
$
#!/bin/bash
```

48. Write a shell script to convert a string to uppercase.

```
$
#!/bin/bash
```

49. Write a shell script to find the total size of all the files in a directory.

```
$
#!/bin/bash
```

50. Write a shell script to generate a random string of a certain length entered by the user.

```
$
#!/bin/bash
```

Pending Questions : Q16-Q50 [34 questions]