SHELL SCRIPTING PRACTICE QUESTION

1. Script for addition of two real numbers

```
# /bin/bash/sh

echo "enter number 1"
read a
echo "enter number 2"
read b
c=`echo $a+$b | bc`
echo "addition of two real number is : $c"
~
~
~
~
~
~
~
~
~
~
~
~
~
"real.sh" 8 lines, 138 bytes
```

```
rohan@rohan-virtual-machine:~/shell$ bash real.sh
enter number 1
4.28
enter number 2
1.21
addition of two real number is : 5.49
rohan@rohan-virtual-machine:~/shell$
```

2. Script for arithmetic calculator using command line arguments

```
# /bin/bash/sh

echo "addition of twwo number are $(( $1 + $2 ))"
```

"cal.sh" 3 lines, 66 bytes

```
rohan@rohan-virtual-machine:~/shell$ vi cal.sh
rohan@rohan-virtual-machine:~/shell$ bash cal.sh 1 2
addition of twwo number are 3
rohan@rohan-virtual-machine:~/shell$
```

3. To read n and generate a below pattern
   1
   1 2
   1 2 3
   1 2 3 4

```
# /bin/bash/sh

echo "Enter number of lines"
read n
for (( i=1; i<=n; i++ ))
do
for (( j=1; j<=i; j++ ))
do
echo -n "$j"
done
echo ""
done
~
~
~
~
~
~
~
~
~
~
~
"pat1.sh" 12 lines, 140 bytes
```

```
rohan@rohan-virtual-machine:~/shell$ vi pat1.sh
rohan@rohan-virtual-machine:~/shell$ bash pat1.sh
Enter number of lines
6
1
12
123
1234
12345
123456
rohan@rohan-virtual-machine:~/shell$
```

4. To read n and generate a below pattern

1

2 3

4 5 6

        7 8 9 10

```
# /bin/bash/sh

echo "ENter number of lines you want in patter"
read n
i=1
j=1
while [ $j -le $n ]
do
        for (( k=1; k<=j; k++ ))
        do
                echo -n "$i "
                i=$((i+1))
        done

        echo ""
        j=$((j+1))
done
~
~
~
~
~
~
"pat2.sh" 17 lines, 196 bytes
```

```
rohan@rohan-virtual-machine:~/shell$ vi pat2.sh
rohan@rohan-virtual-machine:~/shell$ bash pat2.sh
ENter number of lines you want in patter
6
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15
16 17 18 19 20 21
rohan@rohan-virtual-machine:~/shell$
```

5. Script to compare larger integer values from a 'n' number of arguments using command line arguments

```
# /bin/bash/sh

max=0


for i in "$@"
do
    if [ "$i" -gt "$max" ]
    then
        max=$i
    fi
done
echo "MAx Elemwnr is: $max"
~
~
~
~
~
~
~
~
~
"largest.sh" 13 lines, 134 bytes
```

```
rohan@rohan-virtual-machine:~/shell$ vi largest.sh
rohan@rohan-virtual-machine:~/shell$ bash largest.sh 1 3 8 6 5 7 9 2
MAx Elemwnr is: 9
rohan@rohan-virtual-machine:~/shell$
```

6. Script to print a given number in reverse order

```
# /bin/bash/sh
n=$1
num=0
while [ $n -gt 0 ]
do
num=$(expr $num \* 10)
k=$(expr $n % 10)
num=$(expr $num + $k)
n=$(expr $n / 10)
done
echo number is $num
~
~
~
~
~
~
~
~
~
~
~
~
"rev.sh" 11 lines, 154 bytes
```

```
rohan@rohan-virtual-machine:~/shell$ vi rev.sh
rohan@rohan-virtual-machine:~/shell$ bash rev.sh 639872
number is 278936
rohan@rohan-virtual-machine:~/shell$
```

7. script to read 'n' and generate Fibonacci numbers <= n

```
# /bin/bash/sh

echo "Enter limit of series "
read limit
a=0
b=1
for  (( i=0; i<limit; i++ ))
do
echo -n "$a "
c=$((a + b))
a=$b
b=$c
done
~
~
~
~
~
~
~
~
~
~
~
"fib.sh" 13 lines, 139 bytes
```

```
rohan@rohan-virtual-machine:~/shell$ vi fib.sh
rohan@rohan-virtual-machine:~/shell$ bash fib.sh
Enter limit of series
13
0 1 1 2 3 5 8 13 21 34 55 89 144 rohan@rohan-virtual-machine:~/shell$
```

8. script to print chess board , black as 1 , white as 0

```
# /bin/bash/sh

for i in $(seq 1 8)
do
        for j in $(seq 1 8)
        do
                S=$(((i+j)%2))
                if [ $S -eq 0 ]
                then
                        echo -n "0 "
                else
                        echo -n "1 "
                fi
        done

        echo ""
done



"chess.sh" 17 lines    173 bytes
```

```
rohan@rohan-virtual-machine:~/shell$ vi vhess.sh
rohan@rohan-virtual-machine:~/shell$ vi chess.sh
rohan@rohan-virtual-machine:~/shell$ bash chess.sh
0 1 0 1 0 1 0 1
1 0 1 0 1 0 1 0
0 1 0 1 0 1 0 1
1 0 1 0 1 0 1 0
0 1 0 1 0 1 0 1
1 0 1 0 1 0 1 0
0 1 0 1 0 1 0 1
1 0 1 0 1 0 1 0
rohan@rohan-virtual-machine:~/shell$
```

9. Script called say hello, which will print greetings based on time and to provide date information.

```
# /bin/bash/sh

hour=`date +%H`
now=$(date)
if [ $hour -lt 12 ]
then
echo "GOOD MORNING ROHAN"
echo "Current date is $now"
elif [ $hour -le 16 ]
then
echo "GOOD AFTERNOON ROHAN"
echo "Current date is $now"
elif [ $hour -le 20 ]
then
echo "GOOD EVENING ROHAN"
echo "Current date is $now"
else
echo "GOOD NIGHT ROHAN"
echo "Current date is $now"
fi
~
~
~
"greet.sh" 20 lines, 349 bytes
```

```
rohan@rohan-virtual-machine:~/shell$ vi greet.sh
rohan@rohan-virtual-machine:~/shell$ bash greet.sh
GOOD MORNING ROHAN
Current date is Thursday 20 April 2023 11:22:38 AM IST
rohan@rohan-virtual-machine:~/shell$
```

10. Script to locks file permissions for a particular directory for groups and others

```sh
# /bin/bash/sh

file=$1
ls -la "${file}"
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
"per.sh" 4 lines, 41 bytes
```

```
rohan@rohan-virtual-machine:~/shell$ bash per.sh /home/rohan/shell
total 344
drwxrwxr-x  2 rohan rohan    4096 Apr 20 11:43 .
drwxr-x--- 16 rohan rohan    4096 Apr 17 16:21 ..
-rw-rw-r--  1 rohan rohan     134 Apr 19 23:04 @
-rw-rw-r--  1 rohan rohan      93 Apr 19 16:12 1
-rw-rw-r--  1 rohan rohan      61 Apr 15 18:53 addition.sh
-rw-rw-r--  1 rohan rohan      66 Apr 19 22:42 cal.sh
-rw-rw-r--  1 rohan rohan     173 Apr 19 23:27 chess.sh
-rw-rw-r--  1 rohan rohan      87 Apr 19 16:23 content.sh
-rw-rw-r--  1 rohan rohan      77 Apr 15 19:27 div.sh
-rw-rw-r--  1 rohan rohan     144 Apr 19 16:00 Exe.sh
-rw-rw-r--  1 rohan rohan     139 Apr 19 23:21 fib.sh
-rw-rw-r--  1 rohan rohan      80 Apr 15 19:40 for2.sh
-rw-rw-r--  1 rohan rohan      69 Apr 15 19:38 for.sh
-rw-rw-r--  1 rohan rohan     349 Apr 20 11:33 greet.sh
-rw-rw-r--  1 rohan rohan     125 Apr 19 12:52 if_else.sh
-rw-rw-r--  1 rohan rohan      85 Apr 17 14:33 if.sh
-rw-rw-r--  1 rohan rohan     134 Apr 19 23:02 largest.sh
-rw-rw-r--  1 rohan rohan     205 Apr 19 12:52 leap.sh
-rw-rw-r--  1 rohan rohan      93 Apr 19 16:11 Less.sh
-rw-rw-r--  1 rohan rohan      72 Apr 15 19:32 mod.sh
-rw-rw-r--  1 rohan rohan      67 Apr 15 19:19 mul.sh
-rw-------  1 rohan rohan   12288 Apr 15 19:14 .mul.sh.swp
```