BASH SCRIPTING

- 1) Write a shell script to run the following operations by reading 2 numbers and one choice from the user:
    - Addition
    - Subtraction
    - Multiplication
    - Division
    - Average

It should be a choice based program i.e. if the input is 1, Addition should be performed.

```
echo "Enter Two Numbers"
read a b
echo "1. Addition"
echo "2. Subtraction"
echo "3. Multiplication"
echo "4. Division"
echo "5. Average"
echo "Enter Choice"
read ch
if [ $ch -lt 1 ] || [ $ch -gt 5 ]
then
    echo "Invalid Choice, Try Again"
    exit
fi
if [ $ch -eq 1 ]
then
    c=$((a+b))
    echo "Addition : $c"
elif [ $ch -eq 2 ]
then
    c=$((a-b))
    echo "Subtraction : $c"
elif [ $ch -eq 3 ]
then
    c=$((a*b))
    echo "Mutliplication : $c"
elif [ $ch -eq 4 ]
then
    c=$((a/b))
    echo "Division : $c"
elif [ $ch -eq 5 ]
then
    c=$(((a+b)/2))
    echo "Average : $c"
else
    echo "Invalid Choice, Try Again"
fi
```

OUTPUT :

```
yasasri@Yasasri:~$ chmod +x choice.sh
yasasri@Yasasri:~$ ./choice.sh
Enter Two Numbers
1 7
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Average
Enter Choice
3
Mutliplication : 7
yasasri@Yasasri:~$ ./choice.sh
Enter Two Numbers
1 5
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Average
Enter Choice
1
Addition : 6
yasasri@Yasasri:~$ ./choice.sh
Enter Two Numbers
8 2
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Average
Enter Choice
4
Division : 4
yasasri@Yasasri:~$ ./choice.sh
Enter Two Numbers
6 3
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Average
Enter Choice
2
Subtraction : 3
yasasri@Yasasri:~$ ./choice.sh
Enter Two Numbers
4 8
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Average
Enter Choice
5
Average : 6
```

- 2) Write a shell script to check whether a number is a palindrome or not.

```
echo "Enter Number"
read n
t=$n
r=0
while [ $n -ne 0 ]
do
    d=$((n%10))
    r=$((r*10+d))
    n=$((n/10))
done
if [ $r -eq $t ]
then
    echo "$t is Palindrome"
else
    echo "$t is Not Palindrome"
fi
```

OUTPUT :

```
yasasri@Yasasri:~$ chmod +x palindrome.sh
yasasri@Yasasri:~$ ./palindrome.sh
Enter Number
121
121 is Palindrome
yasasri@Yasasri:~$ ./palindrome.sh
Enter Number
456
456 is Not Palindrome
```

- 3) Write a script to run the following operations by reading an input and a choice from the user:
    - ROT13 Encode
    - ROT13 Decode

```
echo "1. ROT13 Encode"
echo "2. ROT13 Decode"
read ch
if [ $ch -lt 1 ] || [ $ch -gt 2 ]
then
    echo "Invalid Choice, Try Again"
    exit
fi
if [ $ch -eq 1 ]
then
    echo "Enter Normal String"
    read st
    echo "Encoded String : "
    echo $st | rot13
else
    echo -n "Enter Encoded String : "
    read st
    echo -n "Decoded String : "
    echo $st | rot13
fi
```

OUTPUT :

```
yasasri@Yasasri:~$ ./endecode.sh
1. ROT13 Encode
2. ROT13 Decode
1
Enter Normal String
Yasasri
Encoded String :
Lnfnfev
yasasri@Yasasri:~$ ./endecode.sh
1. ROT13 Encode
2. ROT13 Decode
2
Enter Encoded String : Lnfnfev
Decoded String : Yasasri
```

- 4) Using functions, write a shell script program to check whether a file named “persistence” is present in your system.

```
is_file_exists() {
    if [ -e "$1" ]
    then
        echo "File Found"
    else
        echo "File Not Found"
fi
}
is_file_exists persistence
```

OUTPUT :

```
yasasri@Yasasri:~$ ls
choice.sh  endecode.sh  fileexist.sh  palindrome.sh
yasasri@Yasasri:~$ chmod +x fileexist.sh
yasasri@Yasasri:~$ ./fileexist.sh
File Not Found
yasasri@Yasasri:~$ cat > persistence
^C
yasasri@Yasasri:~$ ls
choice.sh  endecode.sh  fileexist.sh  palindrome.sh  persistence
yasasri@Yasasri:~$ ./fileexist.sh
File Found
```