// SHELL PROGRAMMING

//SWAPPING VARIABLES

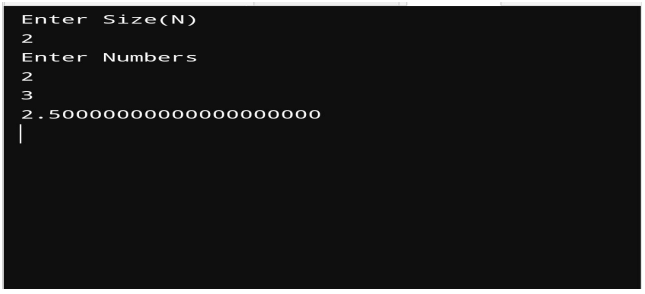
```
#!/bin/bash
echo "Enter first number"
read a
echo "Enter second number"
read b
echo "BEFORE SWAPPING"
echo " a = $a "
echo " b = $b "
a=$((a+b))
b=$((a-b))
a=$((a-b))
echo "AFTER SWAPPING"
echo " a = $a "
echo " b = $b "
```

//OUTPUT


student@G25:~$ bash swapsa.sh
Enter first number
22
Enter second number
44
BEFORE SWAPPING
a = 22
b = 44
AFTER SWAPPING
a = 44
b = 22
student@G25:~$

```
//AVERAGE OF TWO NUMBERS
#!/bin/bash
echo "Enter Size(N)"
read N
i=1
sum=0
echo "Enter Numbers"
while [ $i -le $N ]
do
  read num
  sum=$((sum + num))
  i=$((i + 1))
done
avg=$(echo $sum / $N | bc -l)
echo $avg
```

// OUTPUT



//REVERSE A STRING

```
#!/bin/bash
echo "Enter a String"
read string
len=${#string}
for ((i=len-1;i>=0;i--))
do
reverse+=${string:$i:1}
done
echo "Reversed String is : $reverse"
```

//OUTPUT


student@G25:~$ bash reversesa.sh
Enter a String
susan
Reversed String is : nasus
student@G25:~$

//PATTERN

```
#!/bin/bash
echo "Enter the number of lines to print"
read n
echo
for ((i=0; i<n; i++))
do
for ((j=1; j<=i+1; j++))
do
echo -n "$j "
done
echo
done
```

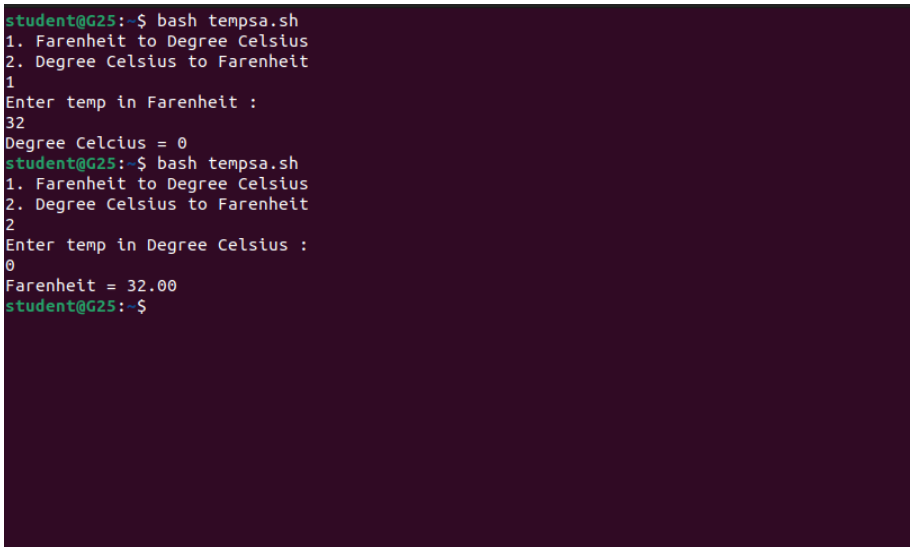
//OUTPUT

```
student@G25:~$ bash patternsa.sh
Enter the number of lines to print
4

1
1 2
1 2 3
1 2 3 4
student@G25:~$
```

// FARHENHEIT TO CELSIUS TEMPERATURE

```
#!/bin/bash
echo "1. Farenheit to Degree Celsius"
echo "2. Degree Celsius to Farenheit"
read c

if ((c==1))
then
echo "Enter temp in Farenheit :"
read f
echo "Degree Celcius = "$(echo "scale=2; ($f-32)*5/9" | bc)

elif ((c==2))
then
echo "Enter temp in Degree Celsius :"
read c
echo "Farenheit = "$(echo "scale=2; ($c*9/5)+32" | bc)

else
echo "invalid choice"

fi
```

//OUTPUT


student@G25:~$ bash tempsa.sh
1. Farenheit to Degree Celsius
2. Degree Celsius to Farenheit
1
Enter temp in Farenheit :
32
Degree Celcius = 0
student@G25:~$ bash tempsa.sh
1. Farenheit to Degree Celsius
2. Degree Celsius to Farenheit
2
Enter temp in Degree Celsius :
0
Farenheit = 32.00
student@G25:~$

//LARGEST AMONG THREE NUMBERS

```
#!/bin/bash
echo "Enter three Numbers"
read num1
read num2
read num3
if ((num1>num2 && num1>num3))
then
echo "Largest is $num1"
elif ((num2>num3))
then
echo "Largest is $num2"
else
echo "Largest is $num3"
fi
```

//OUTPUT


student@G25:~$ bash largestsa.sh
Enter three Numbers
3
6
1
Largest is 6
student@G25:~$

```
//CALCULATOR
#!/bin/bash
echo "Simple Calculator"
echo "Select Choice"
echo "1.Addition"
echo "2.Substraction"
echo "3.Multiplication"
echo "4.Division"
echo "0.exit"
c=1
while ((c!=0))
do
echo "Select Choice"
read c
case $c in
1)
echo "Enter two numbers"
read a
read b
echo "Sum is $((a+b))"
;;
2)
echo "Enter two numbers"
read a
read b
echo "Difference is $((a-b))"
;;
3)
echo "Enter two numbers"
read a
read b
echo "Product is $((a*b))"
;;
4)
echo "Enter two numbers"
read a
read b
echo "Quotient is "$(echo "scale=4; $a/$b" | bc)
;; 0)
;;
*)
echo "Invalid Choice"
esac
done
```

//OUTPUT


student@G25:~$ bash calculatorsa.sh
Simple Calculator
Select Choice
1.Addition
2.Substraction
3.Multiplication
4.Division
0.exit
Select Choice
1
Enter two numbers
2
2
Sum is 4
Select Choice
2
Enter two numbers
2
2
Difference is 0
Select Choice
3
Enter two numbers
2
2
Product is 4
Select Choice
4
Enter two numbers
2
2
Quotient is 1.0000
Select Choice
0
student@G25:~$

//REVERSE A NUMBER

```
#!/bin/bash
echo enter n
read n
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
```

//OUTPUT


student@G25:~$ bash reversenumsa.sh
enter n
1234567
number is 7654321
student@G25:~$