

1. Write a shell program to find the simple interest.

```
echo " Enter the principle value: "
read p
echo " Enter the rate of interest:"
read r
echo " Enter the time period:"
read t
s=$((p*r*t/100))
echo "The simple interest is "
echo $s
```

2. Write a shell program to find the sum of two numbers.

```
echo -n "Enter number 1 : " # -n option suppresses newline
read NUM1 # Read the user input from Standard Input and store in Variable NUM1
echo -n "Enter number 2 : "
read NUM2
SUM=$((NUM1 + NUM2)) # Arithmetic expansion using double parentheses
echo "The sum is $SUM"
```

```
#echo "scale = 2; $NUM1+$NUM2" | bc # to print a float number
#SUM=`expr $NUM1 + $NUM2` # Arithmetic expansion using backticks.
#Usage of expr command to evaluate the expression
#echo "The sum is $SUM"
```

3. Write a shell program to find the sum of three numbers and print the number of arguments passed

```
echo "File name : $0"
echo "First number : $1"
echo "2nd number : $2"
echo "3rd number : $3"
sum=$(( $1+$2+$3 ))
echo "Sum=$sum"
```

```
echo "Total number of parameters : $#"
```

4. Write a shell program to compare two numbers

```
#!/bin/bash
echo -n "Enter first number: "
read a
echo -n "Enter second number: "
read b

if [ $a -ge $b ]
then
    echo "The variable $a is greater than the variable $b."
else
    echo "The variable $b is greater than the variable $a."
fi
```

5. Write a shell script program to check if an entered number is positive or negative.

```
echo -n "Enter a number: "  
read NUM
```

```
if [ $NUM -gt 0 ]  
then  
    echo "$NUM is +ve"  
elif [ $NUM -lt 0 ]  
then  
    echo "$NUM is -ve"  
else  
    echo "$NUM is 0"  
fi
```

```
echo "done"
```

6. Write a shell script program to check is an entered number is even or odd.

```
#!/bin/bash  
echo -n "Enter n: "  
read n  
if [  $$(n\%2)$  == 0 ]  
then  
    echo "The number is even."  
else  
    echo "The number is odd."  
fi
```

7. Write a shell script program to find the largest of three numbers.

```
echo " Enter A value: "  
read a  
echo " Enter B value: "  
read b  
echo " Enter C value: "  
read c  
if [ $a -gt $b ] && [ $a -gt $c ]  
then  
    echo "$a is greater"  
elif [ $b -gt $a ] && [ $b -gt $c ]  
then  
    echo "$b is greatest "  
else  
    echo "$c is greatest "  
fi
```

8. Write a shell script program to perform arithmetic operation using case statement.

```
echo "Program to perform arithmetic operation"  
echo -n "Enter First Numbers: "  
read a  
echo -n "Enter Second Numbers: "  
read b
```

```

echo "What do you want to do? (1 to 5)"
echo "1) Sum"
echo "2) Difference"
echo "3) Product"
echo "4) Quotient"
echo "5) Remainder"
echo "Enter your Choice"
read n
case "$n" in
    1) echo "The Sum of $a and $b is $((a+b))";;
    2) echo "The Difference between $a and $b is $((a-b))";;
    3) echo "The Product of the $a and $b is $((a*b))";;
    4) echo "The Quotient of $a by $b is $((a/b))";;
    5) echo "The Remainder of $a by $b is $((a%b))";;
    *) echo "Enter valid choice";;
esac

```

9. Write a shell script program to print numbers from 1 to 10 using while loop.

```

COUNT=1
while [ $COUNT -le 10 ]
do
    echo "Loop count is $COUNT"
    COUNT=$((COUNT+1))
done

echo "Done"

```

10. Write a shell script program to find the sum of N natural numbers.

Description : Sum of N natural numbers using while loop

```

echo -n "Enter a number: "
read NUM

```

```

SUM=0
I=1
while [ $I -le $NUM ]
do
    SUM=$((SUM + I))
    I=$((I+1))
done

```

```

echo "The sum of the first $NUM numbers is: $SUM"

```

11. Write a shell script program to find the factorial of a number.

```

#!/bin/bash
echo "Factorial Calculation Script. ..."
echo "Enter a number: "
read f
fact=1

```

```

factorial=1
while [ $fact -le $f ]
do
    factorial=$((factorial*fact))
    fact=$((fact+1))
done
echo "Factorial of $f = $factorial"

```

12. Write a shell script program to find the sum of digits of a number.

```

echo "Enter number : "
read n
sd=0
sum=0
while [ $n -gt 0 ]
do
    sd=$(( $n%10 )) # get Remainder
    n=$(( $n/10 )) # get next digit
    sum=$(( $sum+$sd )) # calculate sum of digit
done
echo "Sum of all digit is $sum"

```

13. Write a shell script program to check if the entered dimensions are for equilateral, isosceles or scalene triangle.

```

read a
read b
read c

if [ $a == $b -a $b == $c -a $a == $c ]
then
echo EQUILATERAL

elif [ $a == $b -o $b == $c -o $a == $c ]
then
echo ISOSCELES
else
echo SCALENE
fi

```

14. Write a shell program to print the following pattern

```

*

*      *

*      *      *

*      *      *      *

*      *      *      *      *

```

15. Write a shell program to print the following pattern

```
*   *   *   *   *   *
*   *   *   *   *   *
*   *   *   *   *   *
*   *   *   *   *   *
*   *   *   *   *   *
```

16. Write a shell program to print the following pattern

```
1
1  2
1  2  3
1  2  3  4
1  2  3  4  5
```