PROGRAM CODE

```
echo "chooose an option:"
echo "1-sum,substract,product,divide,modulus"
echo "2-square root"
echo "3-square,cube"
echo "4-sin,11-cos,12-tan,13-cosec,14-sec,15-cot"
echo "5-logarithm"
echo "6-inverse"
echo "7-exponent"

read n
case $n in
        "1")
        echo "enter 2 no:"
        read a
        read b
        echo "sum=$(($a+$b))"
        echo "diffrence=$(($a-$b))"
        echo "product=$(($a*$b))"
        d=` echo "scale=2; $a / $b" | bc `
        echo "divide=$d"
        echo "remainder=$(($a%$b))"
        ;;
        "2")
```

```
echo "enter a no:"
read a
square_root=`echo "scale=3; sqrt($a)"| bc`
echo "square root of $a is $square_root "
;;
"3")
echo "enter a no"
read a
square=`echo "scale=2; $a^(2)" | bc`
cube=`echo "scale=2; $a^(3)" | bc`
echo "square of $a is $square"
echo "cube os $a is $cube"
;;
"4")
echo "enter the degree"
read a
b=`echo - | awk '{print(('$a'*3.14)/180)}'`
sine=`echo - |awk '{print(sin('$b'))}'`
cose=`echo - |awk '{print(cos('$b'))}'`
tane=`echo - |awk '{print('$sine/$cose')}'`
cosece=`echo - |awk '{print('1/$sine')}'`
sece=`echo - |awk '{print('1/$cose')}'`
cote=`echo - |awk '{print('1/$tane')}'`
echo "sin of $a = $sine"
echo "cos of $a = $cose"
```

```
echo "tan of $a = $tane"
echo "cosec of $a= $cosece"
echo "sec of $a = $sece"
echo "cot of $a = $cote"
;;
"5")
echo "enter the value"
read a
echo "enter the base"
read b
log=`echo - | awk '{print('log($a)/log($b)')}'`
echo "logarithm=$log"
;;
"6")
echo "enter the number"
read a
inv=`echo -| awk '{print('1/$a')}'`
echo "inverse of $a=$inv"
;;
"7")
echo "enter the base"
read a
echo "enter the power"
read b
exponent=`echo - | awk '{print('$a^$b')}'`
```

```
        echo "result=$exponent"
        ;;
        *)
        echo "invalid option"
        ;;
esac
```

OUTPUT

```
sahal@kali:~/bash_script$ ./scientific.sh
chooose an option:
1-sum,substract,product,divide,modulus
2-square root
3-square,cube
4-sin,11-cos,12-tan,13-cosec,14-sec,15-cot
5-logarithm
6-inverse
7-exponent
1
enter 2 no:
7
3
sum=10
diffrence=4
product=21
divide=2.33
```

remainder=1

sahal@kali:~/bash_script$ ./scientific.sh

chooose an option:

1-sum,substract,product,divide,modulus

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6-inverse

7-exponent

3

enter a no

5

square of 5 is 25

cube os 5 is 125

sahal@kali:~/bash_script$ ./scientific.sh

chooose an option:

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6-inverse

7-exponent

6

enter the number

4

inverse of 4=0.25