Mini Project Report

Topic: **Calculator**

Group Details:

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CODE:

```
#%% Addition Function

def add():
    print("Enter numbers you want to add:")
    x = True
# Making sure numbers entered are int or float only..
    while x:
        try:
# Getting all the numbers in list format using map operator..
            l = list(map(float,input().split()))
            x = False
        except ValueError:
            print("Enter only integer or float value..")
            continue

    n = len(l)
    ans = 0
# Adding all the numbers in the list..
```

```
    for i in range(0,n):
        ans = ans + l[i]
    print("ANSWER IS:",ans)

#%% Subtraction Function

def subtract():
    print("Enter numbers you want to subtract:")
    x = True
# Making sure numbers entered are int or float only..
    while x:
        try:
# Getting all the numbers in list format using map operator..
            l = list(map(float,input().split()))
            x = False
        except ValueError:
            print("Enter only integer or float value..\n")
            continue

    n = len(l)
    l.sort()
# Finding the largest number in the list..
    sub = l[-1]
# Subtracting all the numbers in the list..
    for i in range(0,n-1):
        sub = sub - l[i]
    print("ANSWER IS\n",sub)

#%% Multiplication Function

def multiply():
    print("Enter numbers you want to multiply:")
    x = True
# Making sure numbers entered are int or float only..
    while x:
        try:
# Getting all the numbers in list format using map operator..
            l = list(map(float,input().split()))
            x = False
        except ValueError:
            print("Enter only integer or float value\n")
```

```
            continue

    n = len(l)
    mul = 1
# Multiplying all the numbers in the list..
    for i in range(0,n):
        mul = mul * l[i]
    print("ANSWER IS\n",mul)

#%% Divison Function

def divide():
    x = True
# Making sure denominator is not zero..
    while x:
        try:
            val1=float(input("Enter 1st value:"))
            val2=float(input("Enter 2nd value:"))
# Using lambda operator to find division of 2 numbers..
            div = lambda a,b : a/b
            print("ASNWER IS:\n",div(val1,val2))
            x = False
        except ZeroDivisionError:
            print('\nYou cannot divide by zero !!\n')
            continue


#%%  Square root function

def square_root():

    x = True
    while x:
        c=float(input("Enter value:"))
        if c > 0:
# Using pow operator to find square root of number..
            root = pow(c,0.5)
            print("ANSWER IS:\n",root)
            x = False
        else:
            print("Please eneter positive number only..")
```

```
            continue


#%% Exponential function

def power():
    x = True
    while x:
        num = float(input("Enter number:"))
        raise_to = float(input("Enter power:"))
        if num > 0:
            answer = pow(num,raise_to)
            print("ANSWER IS:\n",answer)
            x = False
        elif num < 0:
            if raise_to > 1 or raise_to < -1:
                answer = pow(num,raise_to)
                print("ANSWER IS:\n",answer)
                x = False
            else:
                print('Enter power greater than 1 or less than -1 only..')
                continue

#%%

# Initiating infinite loop..
while True:
    print("Choose an operator:")
    operator=input("+ for addition, - for sub, * to multiply, / to divide, ^ for power, s for
square root, e to exit:")

    if operator in ('+','-','*','/','^','s','e'):
        if operator == "+":
            add()
        elif operator == "-":
            subtract()
        elif operator == "*":
            multiply()
        elif operator == "/":
            divide()
        elif operator == "^":
```

```
            power()
        elif operator == "s":
            square_root()
        elif operator == "e":
            break
    else:
        print("Error! Enter valid operator..")
        continue
```

Output:

1. Addition

```
Choose an operator:

+ for addition, - for sub, * to multiply, / to divide, ^ for power, s for square root, e to exit:+
Enter numbers you want to add:

78 58.8 74 69 -78
ANSWER IS: 201.8
Choose an operator:
```

2. Subtraction

```
Choose an operator:

+ for addition, - for sub, * to multiply, / to divide, ^ for power, s for square root, e to exit:-
Enter numbers you want to subtract:

78 54 20 -45 -96 75 6
ANSWER IS
 64.0
```

3. Multiplication

```
Choose an operator:

+ for addition, - for sub, * to multiply, / to divide, ^ for power, s for square root, e to exit:*
Enter numbers you want to multiply:

45 6 2 1 -1
ANSWER IS
 -540.0
```

4. Division

```
Choose an operator:

+ for addition, - for sub, * to multiply, / to divide, ^ for power, s for square root, e to exit:/

Enter 1st value:45

Enter 2nd value:90
ASNWER IS:
 0.5
```

5. Exponential Function

```
Choose an operator:

+ for addition, - for sub, * to multiply, / to divide, ^ for power, s for square root, e to exit:^

Enter number:5

Enter power:2
ANSWER IS:
 25.0
```

6. Square Root

```
Choose an operator:

+ for addition, - for sub, * to multiply, / to divide, ^ for power, s for square root, e to exit:s

Enter value:25
ANSWER IS:
 5.0
```