Utiliting 'Functions' concepts in python programming.

TASK 7 Date : 10-9-25

Aim: To write the python program using 'Functions' concepts in python programming

7.1 you are developing a small python script to analyze and manipulate list of student grades for a class project. write a python program that satisfies the above requirements using the built in functions print(), len(), type(), max(), min, sorted(), reversed() and range()

Algorithm

1. Start
2. print a welcome message:
3. Determine and print number of students. Uses len() to find the number of elements in the student-names list
4. print sorted list of grades.
5. print reversed list of grades. Uses reversed() to reverse the sorted list and convert it to a list
6. Generate and print a range indices. Uses range() to create a list of
7. Stop

output

```
Welcome to student Grades Analyzer!
Number of student : 4
Type of student_names list: <class 'list'>
Type of student_grades list: <class 'list'>
Highest grade : 92
Lowest grade : 78
Sorted grade : [78, 85, 90, 92]
Reversed grades : [94, 90, 85, 78]
Grade indices from 1 to number of students
 : [1, 2, 3, 4]
```

program:

```
def andyze- student-grades ():
    student-names = ["Alice", "Bob", "charlie", "Diana"]
     student-grades = [85, 92, 72, 90]
print("welcome to student Grade Anayzer!!")
num students = len(studentnames)
print("Number of students:", num-students)

print("In Type of student names list:", type(student-
                                              name))
print("Type of student-grades list:", type(student-g
                                               )
highest-grade = max(student-grade)
lowest - grade = min(student-grades)
print("In Highest grade:", highest-grade)
print("lowest grade: ", lowest-grade)
reversed- grades = list(reversed(sorted-grades))
print("Reversed grades:", reversed-grades)
grade-indices = list(range(1, num-students+1))
print("In Grade indices from 1 to number of
             students:", grade-indices)

analyze-student-grades ().
```

Result: Thus the python program for the function concept is successfully executed.

7.2 you are tasked with creating a small calculator applications to help users perform basic arithmetic operations and greet them with a personalized message. your application should perform the following tasks: addition, subtraction, multiplication, division.

Algorithm:

1. Start
2. user input for numbers
3. user input for operation
4. perform operation :- Based on user's choice the program performs the chosen arith operation using the defined function
5. Display result
6. Stop

Program:

```
def add (a,b):
    return a+b
def subtract (a,b):
    return a-b
def multiply (a*b):
    return a*b
def divide (a,b):
    if b!=0:
        return a/b
```

```
else:
    return "error :Division by zero"
def greet(name):
    return f"Hello, {name}! welcome to the progra
def main():
Arithmetic operation
 num1 =10
 num2 =5
 print("Arithmetic operations:")
 print(f"sum of {num1} and {num2}:",add{num1, num2})
 print(f"Difference of {num1}and {num2}:",subtract{num1
 print(f"multiply of {num1} and {num2}:", multiply{num1,num
 print(f"Quotient of {num1}and {num2}:", divide(num1,n

 #Greeting
 user_name ="Alice"
 print("In Greetings:")
 print(greet(user_name))
 if _name_ =="_main_":
    main()
```

VEL TECH - CSE	
EX NO.	7
PERFORMANCE (5)	5
RESULT AND ANALYSIS (3)	3
VIVA VOCE (3)	3
RECORD (4)	4
TOTAL (15)	15
SIGN WITH DATE	

Result:-

Thus the python program using functions conce
was succesfully executed and output was verifie