* Program: def analyze_student_grades():

```
student_names = ["Alice", "Bob", "Charlie", "Diana"]
student_grades = [85, 92, 78, 90].
Print("Welcome to the Student Grades Analyzer!\n")
num_students = len(student_name)
Print("\n No of. students:", num_students)
Print("\n Type of student_names list:", type(student_name))
Print("Type of student_grades list:", type(student_grades))
highest_grade = max(student_grades)
lowest_grade = min(student_grades)
Print("\n Highest grade:", highest_grade)
Print("Lowest grade:", lowest_grade)
Sorted_grades = sorted(student_grades)
Print("\n Sorted grades:", Sorted_grades)
reversed_grades = list(reversed_grades)
grade_indices = list(range(1, num_students+1)).
```

output:

```
Welcome to the Student Grades Analyzer!
No. of Students: 4
Type of students_names list: <class 'list'>
Type of Student_grades list: <class 'list'>
Highest Grade: 92
lowest grade: 78
Sorted grades: [78, 85, 90, 92]
Reversed grades: [92, 90, 85, 78]
Group indices from 1 to no. of students: [1, 2, 3, 4].
```

Date: 8/9/25

TASK-7 Utilizing Functions' Concepts in Python Programming:

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 a list of student grades for a class Projects. Write a Python programming that satisfies the above requirements.

Algorithm:-

1. Start the program.
2. Print a welcome message: outputs a simple greeting
3. Determine and print the no. of students uses len() to find the no. of elements in the student_names list.
4. Print the type of lists: uses type() to show the type of the student_names and student_grades list.
5. Find the Print highest and lowest grades: uses max() and min() to determine the highest and lowest values in student_grades.
6. Print sorted list of grades: uses sorted() to sort the grades.
7. Print reversed list of grades: uses reversed() to reverse the sorted list and converts it to a list.

* Program:

```
def add(a,b):
    """Return the sum of two numbers"""
    return a+b
def sub(a,b):
    return a-b
def mult(a,b):
    return a*b
def div(a,b):
    return a/b
else:
    return "Error. Division by zero"
def greet(name):
    return f"Hello, {name}! welcome to the Program"
def main()
    num1=10
    num2=5
Print(f"sum of {num1} and {num2}:",add(num1,num2))
Print(f"subtraction of {num1} and {num2}:",sub(num1,num2))
Print(f"Multiplication of {num1} and {num2}:",mult(num1,num2))
Print(f"Division of {num1} and {num2}:",div(num1,num2))
user_name = "Alice"
Print("\n Greeting:")
Print(greet(user_name))
if __name__ == "__main__":
    main()
```

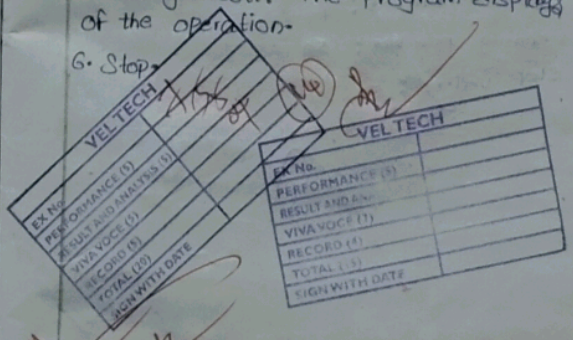
Output:-

```
Sum of 10 and 5 : 15
Sub of 10 and 5 : 5
mult of 10 and 5 : 50
div of 10 and 5 : 2.0
Greeting:
Hello, Alice! welcome to the Program.
```

7.2 You are tasked with creating a small calculator application to the IP 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 the Program.
2. User Input for Numbers: The Program Prompts the user to enter two numbers.
3. User Input for operation: The Program Prompts the user to choose an arithmatic operations (addition, sub, multi, div).
4. Perform operation: Based on the user's choice, the Program forms the chosen arithmatic operation using the defined functions.
5. Display Result:- The Program displays the results of the operation.
6. Stop.



RESULT:- Thus, the Python Program using 'Functions' concepts was successfully executed and the output was verified.