AIM :to whee the Puthon program using 'functions' concerts in fullon frogramming.

612- you are developed a small fulthorn script to analyze any manifulate a list of student grades for a class Project white a lython Program that staisfies the above requirements using the swittin functions Auntly, lench type (1, mank), min (), somedly [54,00,22 ,00] : 22 LON LOHE reversed (1, and ranse(), Capide ababes : sapare Parises

Algorithm:

1. start the Program. Owner and south state

a. Print a welcome message; outfluts a simple streeting. 3. Determine and Print the number of Students: uses len (1 to find the number of elements in the student names list 4. And the types of lists: uses type () to show the type of the student names and student grades lists. 5. Find and Print highest and lowest grodes: uses maniform min() to determine the highest and lowest values in student - grades.

- 6. Plant sorted lists of Grades: uses sorted () to sort the glades.
- 7 PHINT reversed list of grades; uses reversed() to reverse the Sorted list and converts it to a list
- 8. Generate and And a range of grate indices: uses range to create a list indices from 1 to the number of students 9. Stol

some someone by authut: welcome to the student Grodes Analyzer! - Manupor 106 ; Shadeuts: Manou worth off show as in The of Suntert - norme 1st: 40000 118412 Tyle of student - student list: < chars list; thishest stade the states states a state of states of state of solling that motion outles of rowest 1919 - HE ENTH- IN PURCHORS BINGLY, TENCY, TYPE (), MAX (), MIN (), SIMPLE () 2016 (1, and range). [29,09,28,95] : 29 has 19402 verenzed grades: [92,90, \$5, 78] Grade indices from 140 number of AutoMS: [1, 2, 2, 4] part a welcome message; outility a simple arecting. exemine and think the number of students; uses new 1 the number of elements in the student - names list " that the tiples of 11315; uses the 110 show the tiple of 2) SHALL TOWNED ONLY SHOPELF SHOPE SHOPE so and that highest and lowest studes uses mant) and of 20110 determine the highest and course of the .29 LOTE - FISHIR That soled lists of grodes : uses soled () to sole that ,2560B Shows of Charges uses housed to tail partially that The forth 21 to 100 Fan 121 to 1 150 serior 232 u 2316h shorp go good a but san 3torond & to cleante or little indices from 1 to the murphs of symbolic Pate .

Program: def analyze _squdent _ grades (): # sample data student _ Manne = (" Alice"," Bob", "Charlie", " Diana") Student - grades = [85, 92,78,90] # 1. Print a welcome message And (" welcome to the student grades amyzer!\n") # a retermine and Phre the number of students num - students = ren(atudent _ numes) But (" norm per of stropents: " norm - 24 montes) # 3. Phint the type of the student names list and the grades list Aunt ("In the of sudent name list:", the (student names)) mint ("Type of student_grades list:", type (student_grades)) #11. Find any find the hishest and lowest grade highest - grade = max (student _ grades) lowest -grade = min (student _grades) Phinu ("In Highest stade: ", Nghest _glade) Print ("Lowest state: ", west - grade) #5. Print the list of grades sorted in ascending order Sorted _ grades = sorted (student _ grades) Print("In sorted grades: ", sorted - grades) #6. Print the lists of grades in reverse order reversed - grades = 11st (reversed (sorted - grades)) Phint (" Reversed grades: " reversed - grades) #7. Generate and Print a large of grade indices from 1 to number of students 810 de-indices = list (range (1, num stud 41)) mux ("In Grade indices from 1 to number of students:", grade _indices) # run the analysis analyze _student_grades()

the sou are tasked with creating a small calculator application to helf users ferform basic arithmetic oferations and greet them with a Personalized message. Your affication should the following tasks: addition, subtraction, mutahication idivision. officerae bowen to and 8:5 Algorithm: osia sono el lo sused

1. shart the program.

OURSE DE 10 ON SIR-O R user input for numbers: The Program Prompts the user to enter two numbers.

3. user influd for operation: The program frompts the user to Usose an arithmetic oferation (addition, subtraction, muttiflication, division). weeklown oferation: Based on the user's choice , the Program Rectange

the Chosen anithmetic operation using the defined functions. 5. Display Result: The Program displays the result of the oferation.

12 Program:

6-5TOP

def add (aib):

" " Return the sum of two trumbors." " "

return at b

def subtract (a,b):

" " Return the difference between two numbers." " " return - a-b

def multiply (a,b):

" " Resum the Product of two numbers." ""

return q* b

def divide (a,b):

uuu

Return the quotient of two numbers. touldes division by seto.""! if p! =0

telum alb

else.

return " Error: Division by zero"

def graet (name):

autits stewns now a course the bancos on which doors wire profession mountees said institute process that of Arithmetic oferations: sun of to and 5: 15 min . 1000 18 12 . 1004 bbo : 2420+ Brands. Difference between 10 and 5:5 more of the more " Rodult of 10 and 5:20 पटण अस- अन्ताराम कार्याचा विकास कराम्य Quotient of 10 and 5:2.0 Greeting: Herro, Alice! Welcome to the Program. : notation of will want מילורתכנונ סילפיסלוסה (מלצורוסה, שושוים לוסה, לייביסה). the chosen arithmetic exercition using the defined functions. E. Distand Result: The Program distance the result of the objection is Programs (dip) bbo for ש מוו מפנעורו ארכ sum of two munios." "" d to noted : (dip) toothous for non return the difference between two numbers. " " 9-10. Ustrad 104 multilly (a1b): Resum the Product of two numbers, "" JEN O GAMPOL def divide (a,b): Return the quotient out two numbers. It itselfer division by a 0=14 24 dip mystal · 3813 "crar kd moizing ! term " mush

: (omn) tors tob

```
non Return a greeting message for the user."
  return f" Hello, frame ji wellome to the program!
 def main ():
  # Demon strating the use of user-defined functions
  # Arithmetic operations
     חעה ובוס
     num a = 5
 Phint (" Arithmetic operations!")
 And (f" sum of fnum i) and fnum e):", add (num i, nume))
    Print (f" difference between (num 1) and (num 2): ", subtract (num 1, nume))
   Aint 14" Product of four is and four as: ", multiply (num 1, num 2))
   Aint (f" constent of frum 1) and frum 2): ", divide (num: numa)
# Greeting the user
    user_name = "Alice"
   Print ("In Greeting:")
     Phint (greet (user-name))
     # Run the main function
   if __name_ = = " __ main __ ":
      main ()
```

VAR MINITE	
VEL TECH - CSE	
EX NO.	6
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	
TOTAL (20)	
SIGN WITH DATE	15



hesult: Thus, the Python Program using 'functions' concepts was successfully executed and the outlied was relified.