Utalizing functions concepts in python Pagamming Aim: To write the python paragram wing functions' conceptsion python Pagamming

on you are developing as mall python script to analyze and manipulatea list of student grades for a class project. write apython program that satisficesthe above requirements usingthe bulit-in functions printer, long type(), man (), min(), sorted(), reversed() and range(). (40.08 22 10) : June 1 2000

Algorithm:

1) Start thepologram

2) Print a welcome message output asimple greeting

3) Determine and print the number of students: Uselend) to find number of elements intustadent-hame 15th

u) point the type of list. Usertype cotos how the type Of the Student - ham es and student_grades US &.

s) Find and print highest and lowest grade: Us emany and minuto determinethe highest and lowest values in student - grades.

6) print sorted list of angules: Us ensorted U to sorted

the grader

A) poull reversed list of gradu: uses revers ed () to reverse the sorted list cond convert it to a wx.

e) Generate and privil a range of grade indice: Uses range to to create a list of indices from to the number of students.

9) Stop.

Porogram:

def analyze_Student-grade(1)

sample data

student - names = [" Alice", " Bob", "charlie", " Dianay Student - grades = [85,927,96]

1. paintaw-elcome message

poin & " wellome to the student brades Analyzar! It)

```
#2 Determine and pount the number of students
      num - Students = len (student - hames)
     Print("Number of students", nam students)
        pourt-the type of student names (ist and the grades list
   Point ("In Type of student name list; "type (student name)
   Print ("Trype of student-grades list", type (student-grades)
 # 4 Find and paint the highest and lowerst grade
   highert-grade=man (student-grades)
   lower-grade = min (student grades)
   pount(" in this hest squade:", highest-grade)
   Print l'Lowest grade: ", Low est-grade)
 #5 Paint-the list of grades sorted in ous cending order
    Sorted_grades = sorted (student_grades)
     pount l'insorted grades: ", sortea-grades)
 It Aprilt the list of grades in reverse order
      reversed-grades = list (reversed (sorted-grades))
     point (11 peversed grades:", reversed grades)
#7 Generate and pounta rangl of grade indices from
      1 to the number of students
     grade-indicates=list (range(1, nwm_steedends+1))
     Point UINGrade rudices from 1 to number of
             Students: , agrade _ & notices)
```

Run the analysis analyze-student-gradesl)

1. 6 CHILL DE FUNCTIONS CONCEPTIN PHINOS welcome to student Analyzemonthy on other puttion programming. Number of student : 4 Types of student-grades list: 2 class list thighest grade = 92 tilled with 21 thomas willing Low rut on adie = 385 () to trol () to two () 1961 Sortod grade: (78,85,90,92) Reversed grade: [92,90,85,78] morpore quit + mit Evilitiation of elements in the dead comme 13th alpoint the type of like. usu-type cotosnow thetype of the Student, have is and the cent gradules. e) find and paint higher and low est gracewise emany and minute dodono in the highest and lowest value in student - grade 6) beginner 2014 to to a donard in a current () perinted () to 2014 of 1) powers ad list of graduios a reverse ad list reverse the sorted with and convert it tooky. e) Generale and privat a range of grade indice: Uses many tite create a ust of inaica mento the number of student. for analy of Student - graduli F 101/4" " " Wed" " Wed

you was tooked with creating a small calculator application to help users perform bosic anithmetic operation and agreets them with a person outsed in walk your application should parform the following tasks: addition, sub-traction, multiplication, division. Algorithm!

1) start the perceptans. The perogram perompts the User to entertuo numbers.

3) User Input for operation: The program prompts the user-to choose an arithmeetic operation Caddition, subtraction, multipli cation division,

(1) per form operation. Based on the user's, charce, the perogram per-forms the chosen out thinking Operation asing the defined functions.

5) Display result: The program displays the result of the operation

e) Stok.

P signam!

def add (aib).

IIIII Return the sum of two numbers 11111. return outb

def soubtract (aib):

Return the difference between two number 11111 or eturna-b

det multiply (aib);

of twon ambans "1111, 1111111 Return the product def ouvide (a,b);

mill! Returntly quotient of two number. Handles division by Zero""

Arthematic opraction: sump of wands: 49 Difference blu 1018 5:55 product of iog singo Breeting

But Hottello, sice! welcome to the program product to the program product of the program product to the product of t Us on to entertuce numbers. e) occa indications the program prompts the circulation and thinestic operation. Carlotten, subtraction, mattible cost on recovery a) per 10 3 m open Har Based on the oscil, charce, The paregrant works the chosen out thingthe Show on the oretime times to the said Joinpay route . In program displantin susult of the openation 40+10 · William Fredh Act addiciple 12 etwar the sum of two numbers inner Spirit Smistains + 27

redurn alb Loghan. Fire the searting proper elst: return "Error: Division by 200 reduced pullers with the hard def great (name): 12 eturn a greeting message forthe user """; o eturn f" Hello, & norm ey: welcome + othe program", # Demonstrating the werdefined functions # Arithmetic openations num 1=10 num 2 =5 Printf (1 Arithmetic Opertion)"): pout (fiscem of & norm 13 and & num 29:11, add (num; nums)) point (f" bifference between (num 13 and Enum 28: "Subtract (naminum 2)) Print Cfill product of Enum By and Enum 23.", multiply (num, numz) point (f" Quotient of &num 3 y and &num 24: "avide (num 1, num 2) # Greeting the user VEL TECH PERFORMANCE (5) user_nane = "Alice" RESULT AND ANALYSIS (5) VIVA VOCE (5) pount ("In Greeting:") point (greet (users name)) # Run the main function. if name = = = " main _"; main O Risult: Thus, the pythom program wing functions,

con capt was successfully enerch uted another out out was verified.