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                             #Practical Exam

"""PART A: Write a python code to perform the following task using List, dictionary,
tuple and set concepts: 3x2=6 Marks
i) Assume there are 5 students in the class, create dictionary to store name,
register number, gender and email of the students. Display only the
register numbers separately and emails separately as tuple.
ii) Record the attendance of today’s lab test for 5 students and print the
absentees’ details use the set concept.
iii) Using lambda function calculate the cumulative sum of the given list of
marks. Also find out what is the class average.
marks_list = [13, 18, 20, ‘Ab’, 0]"""

Class={10:("Rohit","M","abct@gmail.com"),
       11:("Rahul","M","abcl@gmail.com"),
       12:("Sarita","F","abca@gmail.com"),
       13:("Sagar","M","abcr@gmail.com"),
       14:("Charu","F","abcu@gmail.com")}
no=tuple(Class.keys())
print("Registration Numbers are:",no)

d=list(Class.values())      #For email address
email = []
j = 0
for i in d:
  email.append(d[j][2])
  j += 1
email = tuple(email)
print("Email of students are: ",email)
print(type(email))

print("Enter registration numbers of students who are absent: ")
attendance = set([int(e) for e in input().split(',')])
print(attendance)

l=[13,18,20,'Ab',0]
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for i in range(len(l)):
  l[i] = 0 if l[i] == 'Ab' else l[i]
print(l)

from functools import reduce
sum=reduce(lambda a,b:a+b,l)
print("sum is:",sum)

average=sum/len(l)
print("average is:",average)


class Subject:
    def _init_(self, code):
        self.code = code

"""PART B: Create a Python Program to calculate the result of 1 st lab test for
MDS173 course for at least 3 students. Use the hybrid inheritance to read and
display the subject details, to read and display the student details and to calculate
grade according to the grading criteria. 3x3=9 Marks
Grading Criteria:

Above 16 marks grade A
13 to 16 grade B

8 to 12 grade C
Below 8 Fail
If the student is absent for test no grade should be assigned and a
message “Absent. Better luck for retest” should be printed."""

class Student(Lab_Result):
    def _init_(self, code, reg_no, name):
        Subject._init_(self, code)
        self.reg_no = reg_no
        self.name = name

class Subject(Lab_Results):
    def _init_(self, code,lab_no,subject):
        Subject._init_(self, code)
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        self.lab_no = lab_no
        self.subject= subject

class Grade(Student,Subject):
    def _init_(self, code, reg_no, name, marks, grade):
        Student._init_(self, code, name, reg_no)
        self.marks = marks
        self.grade = grade


class Display_Det(Grade):
    def _init_(self, code, reg_no, name, marks):
        if (marks > 16):
            grade = 'A'
        elif (marks >= 13 and marks <= 16):
            grade = 'B'
        elif (marks >= 8 and marks <= 12):
            grade = 'C'
        elif (makrs >= 0 and marks <= 7):
            grade = 'Fail'
        else:
            grade = 'Absent. Better luck for retest'

        Grade._init_(self, code, reg_no, name, marks, grade)

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