ASSIGNMENT PRACTICAL 22BCA136

Design a Data Structure with Python Datatype like List, tuple or Dictionary for any five students result calculation. Data Structure should have following details. 1) Student ID 2) Student name 3) Student 5 subject names and obtain marks Please consider Following Constrains to be care of while result calculation 1). Check student has equal or more than 50 marks of each subject If student has less than 50 marks of any subject, then student is fail overall, (here percentage is not required to mention in result). 2). Calculate Grade of each subject marks e.g. marks > 80 = AA marks >= 70 and marks > 80 = AB marks >= 60 and marks > 70 = BB marks >= 50 and marks > 60 = CC marks < 50 == FF 3). Calculate Overall Grade based on the Percentage e.g. perc > 80 = AA perc >= 70 and perc > 80 = AB perc >= 60 and perc > 70 = BB perc >= 50 and perc > 60 = CC perc < 50 == FF print the student result based on the user input. User will enter student id. Student result will be printed in below format: Student ID: 22BCA001 Student Name: Mayur Patel --------------------------------------------------------------------------------------------------------- Subject Name Obtain Marks Grade Subject 1 55 CC Subject 2 90 AA Subject 3 45 FF Subject 4 90 AA Subject 1 55 CC ------------------------------------------------------------------------------------------------------------- Overalll Result | Total Marks: 300 | Percentage: --- | Grade: FF

# -\*- coding: utf-8 -\*-

"""

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"""

students = {

'22BCA001': {

'name': 'Mayur Patel',

'subjects': {

'Math': 55,

'Physics': 90,

'Chemistry': 45,

'Biology': 90,

'English': 55

}

},

'22BCA002': {

'name': 'Harsha Mehta',

'subjects': {

'Math': 85,

'Physics': 72,

'Chemistry': 65,

'Biology': 58,

'English': 77

}

},

'22BCA003': {

'name': 'Ramesh Singh',

'subjects': {

'Math': 48,

'Physics': 55,

'Chemistry': 60,

'Biology': 52,

'English': 50

}

},

'22BCA004': {

'name': 'Suresh Sharma',

'subjects': {

'Math': 60,

'Physics': 80,

'Chemistry': 85,

'Biology': 75,

'English': 95

}

},

'22BCA005': {

'name': 'Jayesh Gupta',

'subjects': {

'Math': 90,

'Physics': 88,

'Chemistry': 92,

'Biology': 94,

'English': 78

}

}

}

id = input("Enter student id ")

if id in students:

student = students[id]

name = student['name']

subjects = student['subjects']

print("Student ID: ",id," Student Name: ",name)

print("-" \* 105)

print(f"{'Subjet name':<40}{'obtan Mark':<30}{'Grade'}")

total\_marks = 0

total\_subjects = len(subjects)

failed = False

for subject, marks in subjects.items():

if marks > 80:

grade = 'AA'

elif marks >= 70:

grade = 'AB'

elif marks >= 60:

grade = 'BB'

elif marks >= 50:

grade = 'CC'

else:

grade = 'FF'

failed = True

total\_marks += marks

print(f"{subject:<40}{marks:<30}{grade}")

print("-" \* 105)

percentage = total\_marks / total\_subjects

if percentage > 80:

overall\_grade = 'AA'

elif percentage >= 70:

overall\_grade = 'AB'

elif percentage >= 60:

overall\_grade = 'BB'

elif percentage >= 50:

overall\_grade = 'CC'

else:

overall\_grade = 'FF'

if failed:

overall\_grade = 'FF'

print("Overall Result: ")

print(f"Total Marks: {total\_marks} \t | Percentage: {percentage:.2f}% \t | Grade: {overall\_grade}")

else:

print("Student ID not found.")

