

(CL1002) Programming Fundamentals Lab

Lab 11:

- Before doing the task, I recommend you all to go through the lab manual. It will make it easy for you all to understand this.
 - Copied task will be awarded **zero** marks.
 - Upload only a MS word and PDF file including all tasks source code and its output (screen shot).
 - You have to copy the source code in your word file. Don't take the screen shot of source code.
 - Use the following format for naming the word file Rollno_name (21P-1234_zain).
 - All statements should be commented
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1. Write a python **function** that takes dictionary as a parameter your function should print all the keys and values of the dictionary and **return the sum** all the items (Values) in a dictionary. Check if the value of sum is even your program should **print “SUM IS EVEN”** otherwise it should **print “SUM IS ODD”**.
 2. Write a Python program calculate the product, multiplying all the numbers of a given tuple.
 3. Write a Python **function** `search_element(l)` that take nested list as a parameter. Your function should ask the user to input element to search if the search element is in nested list your function should **return true or false**
`L=[[1,2,3],[4,5,6],[7,8,9]]`

4. Build a GPA calculator that inputs grades of N number of different subjects along with the credit hours from the user and displays the user's GPA. The input grades and their corresponding grading points are given below.

Note: Use Dictionaries to store Grade and its corresponding points

Grade	Points
A	4.0
A-	3.67
B+	3.33
B	3.0
B-	2.67
C+	2.33
C	2.0
C-	1.67
D+	1.33
D	1.0
F	0

The formula is

$$\text{GPA} = (\text{GP1} * \text{CH1} + \text{GP2} * \text{CH2} + \dots + \text{GPN} * \text{CHN}) / (\text{CH1} + \text{CH2} + \dots + \text{CHN})$$

Where GP1 is Points of Subject 1 and CH1 show credit hours of subject 1.

Sample Output

```
Enter the number of subjects 4
Please enter your grade in Subject (1):A-
Please enter the Credit Hours of Subject (1):3
Please enter your grade in Subject (2):B+
Please enter the Credit Hours of Subject (2):2
Please enter your grade in Subject (3):C-
Please enter the Credit Hours of Subject (3):3
Please enter your grade in Subject (4):B-
Please enter the Credit Hours of Subject (4):1
Your GPA is 2.82
```