

PYTHON ASSIGNMENT

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Problem Statements:

Problem 1:

Calculate the fine(if any) on library books. User given expected return date and actual return date

1) if the book is returned on or before the expected return date no fine will be charged.

2) If the book is returned after the expected return day but still within the same calendar month and year as the expected return date, fine = 5 RS * the number of days late.

3) If the book is returned after the expected return month but still within the same calendar year as the expected return date, the fine =50 RS* the number of months late.

4) If the book is returned after the calendar year in which it was expected, there is a fixed fine of 500 RS

Problem 2:

A space explorer's ship crashed on Mars! They send a series of SOS messages to

Earth for help. Letters in some of the SOS messages are altered by cosmic radiation during transmission. Given the signal received by Earth as a string, determine how many letters of the SOS message have been changed by radiation.

Problem 3:

Nisha's parents gave her 5k pocket money every month. She wants to travel back to her home by flight. So the program will calculate the total months in the semester and how much she needs to save each month so she can afford the ticket. Additionally, the program will also indicate her needs as necessary or luxury to keep track of money.

Problem 4:

There is a power house. There is a main switch, various sub switches are

connected to this main switch. A group of 5 houses are connected to each sub

switches. The user will give input of which houses are experiencing short circuit.

Output should be which sub switch to cut supply of electricity. If all the houses

connected to one sub switch experience short circuit then cut supply from the

main switch.

Problem 5:

Checking for the eligibility for scholarship on the basis of academics , family income, caste and various other factors. Apart from scholarship the program will also check the criteria for student loan and if the person is only applicable for a certain amount of scholarship then the program will tell the user that how much amount he/she needs to pay by themselves.

Problem 6:

Write a program to give IQ score of the user. The program consists of some questions with options. You have to answer with given options only. At the end calculate the total sum of points and give a final score which will be IQ score of individual.

Problem 7:

create nimcet rank card. given total number of student, rollnum, name, each subject correct number of question and wrong number of question. If two or more students have same total score then generate rank based on the condition: give upper rank to the person with higher maths score, if the maths marks are same then check computer marks. then check reasoning marks. and then check english.

Problem 8:

Find the country origin by checking the first two digits of a mobile number and check that if the given number is valid or not.

Problem 9:

A person have some symptoms given as a user input you have to identify which possible diseases a person have. we will be providing the key as disease and key values as its symptoms.

Problem 10:

As its difficult to always remember the formula and information of all chemical element so the program will provide the user with all its information like atomic mass, atomic number etc. and additionally we can add one fact about it.

Problem 11:

Covid self test based on the symptoms. Having asked following questions regarding health of a person and the user needs a lab test if given YES to these question:- temperature is above 100 °C , not getting taste , smell issue , cold.

Problem 12:

Write a program to accept the details of the passenger including name, age , weight, gender and medical complications(if any) and then allot seats in the flight accordingly such that seats will be allotted in the following respective order: senior citizens, specially abled, children ,women ,men.

Problem 13:

Write a program to find the each student marks in objective type question paper.

If right ans then marking will be 4 and if wrong then -1,if no ans then 0 marks.

Problem 14:

The website considers a password to be strong if it satisfies the following criteria.

Its length is at least 8 .

It contains at least one digit.

It contains at least one lowercase English character.

It contains at least one uppercase English character.

It contains at least one special character.

user typed a random string of any length in the password field but wasn't sure if it was strong. find the minimum number of characters user must add to make password strong.

Problem 15:A attendance record consisting of the names of all the students of the MCA students and the required dates which store Boolean data true or false to determine whether he was present or absent on that date. Now the maximum no. of days the teacher will take class is given and we must find the attendance percentage and if it is less than 75% then the output will be the number of days, he/she must attend in remaining days to complete the minimum mark.

Problem 16:

.checking a valid email addresses , based on following conditions :-

a. Email addresses must be start with a letter symbol. And any number of letters or digits or underscore (_) can be appended, and

only a single dot (.) is allowed but other symbols and white spaces are not allowed.

b. The name field of the address must end with either a letter or digit.

c. If underscore or dote is used then before it, letters or digits must be used for a valid name.

d. Dot can be used only once but underscore can be used multiple times.

Problem 17:

checking the eligibility for blood donation by taking input from the user for various crieteria like age,bodyweight,height,BP,he/she haven't donated their blood in past 6 months etc...

Problem 18:

Displaying the calories required for a person based on the following information from user :- gender, age , weight in kg , height in cm , heart beat rate per minute and how much should he/she should eat to reach the target body weight.

Problem 19:

Write a program to calculate GST amount ,given MRP and type of product

Problem 20:

calculating the hotel bill by taking the following details from the user:-

- a. customer name
- b. customer address
- c. check in date in format dd:mm:yyyy
- d .check out date in format dd:mm:yyyy

Problem 21:

You want to travel from a source to a destination. Make a program in which the following data are stored in a dictionary i.e., name of flight, time taken by it to reach the destination, price of one ticket. Find the flight with minimum ticket cost and minimum time taken.

Problem 22:

Write a program to encode vehicle number. The user will give state, city as input and the program will generate a unique vehicle number.

Problem 23:

program to track total water intake and how much they should drink more to stay hydrated.

Problem 24:

Write a program to show the present state of an ATM machine. An ATM machine is having a particular number of notes of each denomination. Each time someone withdraws money, it shows the number of notes withdrawn and number of notes left in the machine.

Problem 25:

The 2k market has new stock ,so it will enter the total stock and after any buyer purchases a new item ,the stock will reduce so the program will reduce the number of availability and show if its available or not.