

Lab Report-03:

1.. Password Validator: Write a Python program that takes a password as input and checks if it meets the following criteria: at least 8 characters long, contains both uppercase and lowercase letters, and has at least one digit. If the password is valid, print "Password accepted." If not, use `continue` to prompt the user to enter a valid password.

2. Divisible by 3 or 5: Write a Python program to print all numbers from 1 to 50 that are divisible by either 3 or 5. Use a `for` loop and `continue` to skip numbers that are not divisible by either 3 or 5.

3. Positive Number Sum: Write a Python program that takes positive numbers as input until a negative number is entered. Then, calculate and print the sum of all positive numbers entered. Use a `while` loop and `break` to exit the loop when a negative number is encountered.

4. Word Palindrome Checker: Write a Python program that takes a word as input and checks if it is a palindrome (reads the same forwards and backward). Use `continue` to skip checking the word if its length is less than 3 characters.

5. Vowel Counter: Write a Python program that takes a string as input and counts the number of vowels (a, e, i, o, u) in it. Use a `for` loop and `continue` to skip counting non-vowel characters.

6. Unique Characters: Write a Python program that takes a string as input and checks if it contains all unique characters (no character repeats). Use a `for` loop and `break` when a character repeats.

7. Develop a student information system. Students submit their information & the data has been stored. Print the data they are submitting in this information system.

Case 1: Allow students to choose which information they want to submit.

Case 2: If age is chosen, it should be submitted as a float number.

Case 3: Limit all other information to a maximum of 5 characters.

8. There is a grocery shop which takes regular input from customers. After taking items if they want to add or remove items from their bucket list. We have to generate a program in python.

9. You are given an integer n, representing the size of a list. Next, you receive n strings from the user. Your task is to create a new list containing all the unique characters from these strings. Additionally, sort the characters in lexicographical order.

Example:

Input:

3

Zahid Sani Wakif

Output: ['S', 'W', 'Z', 'a', 'd', 'f', 'h', 'i', 'k', 'n']

10. Mr Rakib to purchase four product items while minimizing cost . He wants to identify the minimum cost of the buying product in the market . SO the four items are Rice , Salt , Fish , Orange .

Given the data here :

RIce	Salt	Fish	Orange
45	34	200	100
42	35	202	99
41	36	201	101
40	36	205	102

Input

Input the product name : Rice

Example Output

Rice -> market 4 value = 40

11. A university management is going to make a system to generate a unique student e-mail id of newly admitted students. Suppose you are the programmer is said to be generate to make e-mail by taking a list of student's name. You have to generate e-mail by adding the length of name and also add the ASCII value of first character after the lower case name. If the name exceed 20 character it ignores that name and proceed to the next activity.

Input: The first line contain the single integers N - Numbers of students in the list. The second line contains N Strings of names N1,N2,N3,.....N(i). (String must not exceed 20 character.

Output: Print the email list according to the scenario. (Lower case name_length of name_ascii value of first character)

12. Design a Python function that compresses a given string by replacing repeated characters with the number of repetitions followed by the character itself. It takes input from users of how many string users want to input, maximum length of string and show output of compressed string.

Sample Input:

```
Enter How many String:3
Enter Size of string:6
ttyyuu uuiojj rrss
```

Sample Output:

```
['2t2y2u', '2u1i1o1k1j', '2r2s']
```

13. You are creating a program to manage a to-do list for your daily tasks. The program should allow you to add tasks, mark tasks as complete, and display all tasks in the list. Write a Python program to manage a to-do list. The program should provide the following functionalities:

1. Add a task to the to-do list.
2. Mark a task as complete.
3. Display all tasks in the to-do list.

14: Suppose, you are working as a python programmer in a Software company. You are asked to create a python program which will take a String as an Input and rotate some of its characters to make a secure password. Now,

- You should take input string of 'm' size without whitespace.
- Take 'n' as the numbers of characters to rotate the string .
- Where $n \leq m$

Sample Input:

Size of String m= 9

Input String:ummeAyman

Number of characters to rotate:05

Sample Output: Aymanumme

15: Suppose, you are a security engineer of an IT organization. You are asked to develop a system which converts the company's Employees name into a numerical value to ensure Employees anonymity in terms of security enhancement. Now,

1. You take a list of employee name.
2. Find out the ASCII values of all Characters of each employee name.
3. Then, add the all ASCII values of each name as well as store that sum value in another list.

Sample Input: EmployeeName:["Umme", "Eity", "Esrat"]

Sample Output: NumericalValues=[207,135,245]

16. Write a function that will create a password by taking an input string from user where,

01. the length of the string $n=10$

02. will convert the first 3 character of the string as uppercase

03. will convert the last 3 character of the string as lowercase

04. Replace the each rest of the characters by different special characters

Sample Input: Enter the string to generate password: adnbeyDSfl

Sample Output: AND!@#\$sfl

17. Write a function that will return the sum of the all even numbers of a list. Where,

01.list should have multiple types of values

Sample Input: x=[3,4,5,7,8,10,"dghf","cbxgc",3.5, 6.2]

Output: 22