STRING

1. Write a python program to merge two strings of same length and form a new string.
For e.g.
Input: string1 = “BEING” string2 = “HUMAN”
Output: new_string = “BUIAG”
Explanation: Form new_string by considering 0^{th} index of first string and 1^{st} index of second string and then again 2^{nd} index of first string and 3^{rd} index of second string and so on…..

2. Write a python program to check pangram (A pangram is a sentence containing every letter in the English Alphabet)
For e.g.
Input: “The quick brown fox jumps over the lazy dog”
Output: is a Pangram
Explanation: Contains all the characters from ‘a’ to ‘z’
Write a python program to find the word which consists of no vowels.
For e.g.
Input: “Let’s try to fry chips for snacks”
Output: [“try”, “fry”]
Write a python program to swap characters of a string.
For e.g.
Input: INSIDEAIML
Output: LMIAEDISNI

Input: APPLE
Output: ELPPA

3. Write a Python program that creates all possible strings using the letters 'a', 'e', 'i', 'o', and 'I'. Ensure that each character is used only once.

4. Write a Python program that prints long text, converts it to a list, and prints all the words and the frequency of each word.

5. Write a Python program to count the number of each character in a string.
Input: “insideaiml”
Output: [(“i”, 3), (“n”,1), (“s”,1), (“d”,1), (“e”,1), (“a”,1), (“m”,1), (“l”,1)]

6. Write a Python program to add two positive integers without using the '+' operator.

7. Write a python program to find the least frequency and maximum frequency character in a string. Then concatenate them.

For e.g.
Input: “Python Programming Foundation”

Output: least frequency character is [“y”, “h”, “f”, “u”, “d”]
Maximum Frequency character is [“o”, “n”]
Concatenate_word = “yhfudon”

10.Write a python program to find the term frequency in percentage.

For e.g.
Explanation: (Occurrence of X word / Total words) * 100
Input: test_list = [“InsideAIML is best for geeks”, “All love InsideAIML”]
Output: {‘InsideAIML’: 0.25, ‘is’: 0.125, ‘best’: 0.125, ‘for’: 0.125, ‘geeks’: 0.125, ‘All’: 0.125, ‘love’: 0.125}

11. Write a python program to find the anagram and print them in alphabetic order.

For e.g.
Input: list = [“cat”, “dog”, “tac”, “god”, “act”,”camel”,”male”]
Output: [“act”, “cat”, “tac”, “dog”, “god”]

12. Write a python program to create a password using existing username along with hyphen.

For e.g.
Input: Inside081AI846ML & N = 3
Output: I-nsi-de0-81A-I84-6ML
If N = 5 □ Output: I-nside-081AI-846ML
If N = 4 □ Output: Insi-de08-1AI8-46ML

13. Write a Python program to check the priority of the four operators (+, -, *, /).

14. Write a Python program to get the third side of a right-angled triangle from two given sides.

15. Write a Python program to get all strobogrammatic numbers that are of length n.

16. Write a Python program to find the median among three given numbers.

17. Write a Python program that finds the value of n when n degrees of number 2 are written sequentially on a line without spaces between them.

18. Write a Python program to find the number of zeros at the end of a factorial of a given positive number.

19. Write a Python program to replace a string "Python" with "Java" and "Java" with "Python" in a given string.

Input:

English letters (including single byte alphanumeric characters, blanks, and symbols) are given on one line. The length of the input character string is 1000 or less
Input a text with two words 'Python' and 'Java
Python is popular than Java
Java is popular than Python

20. Write a Python program to reverse only the vowels of a given string.

Sample Input:
("Python")
("Perl")
("USA")
Sample Output:
Python
Perl
ASU

21. Write a python program to check whether the string is Palindrome or Symmetrical or neither of them.

For e.g.
Input: “Nitin”
Output: is a Palindrome
Input: “KhoKho”
Output: is a Symmetrical
Input: “Philanthropist”
Output: Neither Palindrome nor Symmetrical
Explanation: Palindrome is a word which will we same when we read from first character or last character. Symmetrical is a word when breaks into two parts, then they will be same

22. Write a python program to sort strings by maximum frequency character.
For e.g.
Input: test_list = [“insideAIML”, “bettered”, “for”, “geeks”]
Output: [“for”, “geeks”, “bettered”, “insideAIML”]
Explanation: 1 < 2 < 3 < 4, is ordering of maximum character occurrence frequency

23. Write a Python program to reverse the digits of a given number and add them to the original. Repeat this procedure if the sum is not a palindrome

24. Write a Python program that reads text (only alphabetical characters and spaces) and prints two words. The first word is the one that appears most often in the text. The second one is the word with the most letters.
Note: A word is a sequence of letters which is separated by the spaces.

Input:
A text is given in a line with following condition:
a. The number of letters in the text is less than or equal to 1000.
b. The number of letters in a word is less than or equal to 32.
c. There is only one word which is arise most frequently in given text.
d. There is only one word which has the maximum number of letters in given text.

Input text: Thank you for your comment and your participation.
Output: your participation.

25. Write a Python program to sum all numerical values (positive integers) embedded in a sentence.

Input:
Sentences with positive integers are given over multiple lines. Each line is a character string containing one-byte alphanumeric characters, symbols, spaces, or an empty line. However the input is 80 characters or less per line and the sum is 10,000 or less.
Input some text and numeric values (to exit):
Sum of the numeric values: 80
None
Input some text and numeric values (to exit):
Sum of the numeric values: 17
None
Input some text and numeric values (to exit):
Sum of the numeric values: 10
None

26. When character are consecutive in a string, it is possible to shorten the character string by replacing the character with a certain rule. For example, in the case of the character string YYYYY, if it is expressed as # 5 Y, it is compressed by one character.
Write a Python program to restore the original string by entering the compressed string with this rule. However, the # character does not appear in the restored character string.
Input:
The restored character string for each character on one line.
Original text: XY#6Z1#4023
XYZZZZZZ1000023
Original text: #39+1=1#30
999+1=1000

27. In mathematics, a subsequence is a sequence that can be derived from another sequence by deleting some or no elements without changing the order of the remaining elements. For example, the sequence (A, B, D) is a subsequence of (A, B, C, D, E, F) obtained after removal of elements C, E, and F. The relation of one sequence being the subsequence of another is a preorder.

The subsequence should not be confused with substring (A,B,C,D) which can be derived from the above string (A,B,C,D,E,F) by deleting substring (E,F). The substring is a refinement of the subsequence.
The list of all subsequences for the word "apple" would be "a", "ap", "al", "ae", "app", "apl", "ape", "ale", "appl", "appe", "aple", "apple", "p", "pp", "pl", "pe", "ppl", "ppe", "ple", "pple", "l", "le", "e", "".
Write a Python program to find the longest word in a set of words which is a subsequence of a given string.
Input:
("Green", {"Gn", "Gren", "ree", "en"})
("pythonexercises", {"py", "ex", "exercises"})
Sample Output:
Gren
exercises

28. In abstract algebra, a group isomorphism is a function between two groups that sets up a one-to-one correspondence between the elements of the groups in a way that respects the given group operations. If there exists an isomorphism between two groups, then the groups are called isomorphic.
Two strings are isomorphic if the characters in string A can be replaced to get string B
Given "foo", "bar", return false.
Given "paper", "title", return true.
Write a Python program to check if two given strings are isomorphic to each other or not.

Sample Input:
("foo", "bar")
("bar", "foo")
("paper", "title")
("title", "paper")
("apple", "orange")
("aa", "ab")
("ab", "aa")
Sample Output:
False
False
True
True
False
False
False

29. Write a Python program to find the longest common prefix string among a given array of strings. Return false if there is no common prefix.
For Example, longest common prefix of "abcdefgh" and "abcefgh" is "abc".

Sample Input:
["abcdefgh", "abcefgh"]
["Python","PHP", "Perl"]
["Python","PHP", "Java"]
Sample Output:
abc