

Python Day1 Assignment:

1. Write a Python program to get the smallest and largest number from a list of integers.
2. Write a Python program to get the following pattern using a nested loop.

```
1
22
333
4444
55555
666666
7777777
88888888
999999999
```

3. You are given a string and your task is to *swap cases*. In other words, convert all lowercase letters to uppercase letters and vice versa.

Example: Pythonist 2 → pYTHONIST 2

4. Given a sentence use string split and join to get the result as shown below:

Sample Input: this is a string

Sample Output: this-is-a-string

5. Write a Python program to find the difference between consecutive numbers in a given list.
Original list: [4, 5, 8, 9, 6, 10]
Difference between consecutive numbers of the said list: [1, 3, 1, -3, 4]
6. Write a Python program to get the frequency of the elements in a given list of lists.
Original list of lists: [[1, 2, 3, 2], [4, 5, 6, 2], [7, 8, 9, 5]]
Frequency of the elements in the said list of lists:
{1: 1, 2: 3, 3: 1, 4: 1, 5: 2, 6: 1, 7: 1, 8: 1, 9: 1}
7. Write a Python program to combine two lists into a dictionary, where the elements of the first one serve as the keys and the elements of the second

one serve as the values. The values of the first list need to be unique and hashable.

Sample Output:

Original lists:

['a', 'b', 'c', 'd', 'e', 'f']

[1, 2, 3, 4, 5]

Combine the values of the said two lists into a dictionary:

{'a': 1, 'b': 2, 'c': 3, 'd': 4, 'e': 5}

8. Write a Python program to find the key of the maximum value in a dictionary.

Sample Output:

Original dictionary elements

{'Theodore': 19, 'Roxanne': 22, 'Mathew': 21, 'Betty': 20}

the maximum and minimum value of the said dictionary:

('Roxanne', 'Theodore')

9. Write a Python program to construct the following pattern, using a nested for loop.

```
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

10. Write a Python program that prints all the numbers from 0 to 20 except the numbers in the given list [5, 6, 12, 15].

Note : use the 'continue' statement.

11. Write a Program to count the number of vowels in a given string.

Example:

Input_string = 'Hello World'

Count_output = 3

12. Write a Python program to remove consecutive duplicates from a list.

Original list:

initial_input = [0, 0, 1, 2, 3, 4, 4, 5, 6, 6, 6, 7, 8, 9, 4, 4]

After removing consecutive duplicates:

final_output = [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 4]

13. Write a Program to read a sample text file and count the words having length greater than or equal to 5.

14. Write a program to read a sample text file and Capitalize the each word and append it to the same file.

15. Write a function in Python that takes a normal .txt file path as an input and counts the word in a given list [**the, these, that, and**] and displays it.

16. Map, Filter, Reduce Question: Given a list of strings fruits as shown below:

fruits = ["Apple", "Banana", "Pear", "Apricot", "Orange"] .

- Change each of the words to uppercase using map function
- Filter out the words starting with 'A' using filter functionality
- Concat all words using reduce

