

# TECHONET®

## List Assignment

**1. Write a Python program to get the cumulative sum of the elements of a given list.**

Sample Output:

Original list elements:

[1, 2, 3, 4]

Cumulative sum of the elements of the said list:

[1, 3, 6, 10]

Original list elements:

[-1, -2, -3, 4]

Cumulative sum of the elements of the said list:

[-1, -3, -6, -2]

**2. Write a Python program to move the specified number of elements to the start of the given list.**

Sample Output 1:

[4, 5, 6, 7, 8, 1, 2, 3]

[6, 7, 8, 1, 2, 3, 4, 5]

Sample Output 2:

[8, 1, 2, 3, 4, 5, 6, 7]

[2, 3, 4, 5, 6, 7, 8, 1]

**3. Write a Python program to get the most frequent element in a given list of numbers.**

Sample Output:

Original list:

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

Item with maximum frequency of the said list: 2

**4. Write a Python program to check if all the elements of a list are included in another given list.**

Sample Output:

True

False

**5. Write a Python program to chunk a given list into smaller lists of a specified size.**

**6. Write a Python program to pair up the consecutive elements of a given list.**

Original lists:

[1, 2, 3, 4, 5, 6]

Pair up the consecutive elements of the said list:

[[1, 2], [2, 3], [3, 4], [4, 5], [5, 6]]

**7. Write a Python program to find the dimension of a given matrix.**

Original list:

[[1, 2], [2, 4]]

Dimension of the said matrix:

(2, 2)

**8. Write a Python program to find the specified number of largest products from two given list, multiplying an element from each list.**

Original lists:

[1, 2, 3, 4, 5, 6]

[3, 6, 8, 9, 10, 6]

3 Number of largest products from the said two lists:

[60, 54, 50]

4 Number of largest products from the said two lists:

[60, 54, 50, 48]

**9. Write a Python program to create the smallest possible number using the elements of a given list of positive integers.**

Original list:

[3, 40, 41, 43, 74, 9]

Smallest possible number using the elements of the said list of positive integers:

3404143749

**10. Write a Python program to find common elements in a given list of lists.**

Original list:

[[7, 2, 3, 4, 7], [9, 2, 3, 2, 5], [8, 2, 3, 4, 4]]

Common elements of the said list of lists:

[2, 3]

**11. Write a Python program to count the frequency of consecutive duplicate elements in a given list of numbers.**

Original lists:

[1, 2, 2, 2, 4, 4, 4, 5, 5, 5, 5]

Consecutive duplicate elements and their frequency:

[(1, 2, 4, 5), [1, 3, 3, 4)]

**12. Write a Python program to calculate the sum of the numbers in a list between the indices of a specified range.**

Original list:

[2, 1, 5, 6, 8, 3, 4, 9, 10, 11, 8, 12]

Range: 8 , 10

Sum of the specified range:

29

**13. Write a Python program to remove all elements from a given list present in another list.**

**Original lists:**

list1: [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

list2: [2, 4, 6, 8]

Remove all elements from 'list1' present in 'list2':

[1, 3, 5, 7, 9, 10]

**14. Write a Python program to check whether a specified list is sorted or not**

**Original list:**

[1, 2, 4, 6, 8, 10, 12, 14, 16, 17]

Is the said list is sorted!

True

**Original list:**

[1, 2, 4, 6, 8, 10, 12, 14, 16, 17]

Is the said list is sorted!

False

**15. Write a Python program to rotate a given list by specified number of items to the right or left direction.**

original List:

[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

Rotate the said list in left direction by 4:

[4, 5, 6, 7, 8, 9, 10, 1, 2, 3, 4]

Rotate the said list in left direction by 2:

[3, 4, 5, 6, 7, 8, 9, 10, 1, 2]

Rotate the said list in Right direction by 4:

[8, 9, 10, 1, 2, 3, 4, 5, 6]

Rotate the said list in Right direction by 2:

[9, 10, 1, 2, 3, 4, 5, 6, 7, 8]

**16. Write a Python program to find the difference between consecutive numbers in a given list.**

Original list:

[1, 1, 3, 4, 4, 5, 6, 7]

Difference between consecutive numbers of the said list:

[0, 2, 1, 0, 1, 1, 1]

Original list:

[4, 5, 8, 9, 6, 10]

Difference between consecutive numbers of the said list:

[1, 3, 1, -3, 4]

**17. Write a Python program to sort a given matrix in ascending order according to the sum of its rows.**

Original Matrix:

```
[[1, 2, 3], [2, 4, 5], [1, 1, 1]]
```

Sort the said matrix in ascending order according to the sum of its rows

```
[[1, 1, 1], [1, 2, 3], [2, 4, 5]]
```

Original Matrix:

```
[[1, 2, 3], [-2, 4, -5], [1, -1, 1]]
```

Sort the said matrix in ascending order according to the sum of its rows

```
[[ -2, 4, -5], [1, -1, 1], [1, 2, 3]]
```

**18. Write a Python program to Zip two given lists of lists.**

Original lists:

```
[[1, 3], [5, 7], [9, 11]]
```

```
[[2, 4], [6, 8], [10, 12, 14]]
```

Zipped list:

```
[[1, 3, 2, 4], [5, 7, 6, 8], [9, 11, 10, 12, 14]]
```

**19. Write a Python program to pack consecutive duplicates of a given list elements into sublists.**

Original list:

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

After packing consecutive duplicates of the said list elements into sublists:

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

**20. Write a Python program to move all zero digits to end of a given list of numbers.**

Expected output:

Original list:

```
[3, 4, 0, 0, 0, 6, 2, 0, 6, 7, 6, 0, 0, 0, 9, 10, 7, 4, 4, 5, 3, 0, 0, 2, 9, 7, 1]
```

Move all zero digits to end of the said list of numbers:

```
[3, 4, 6, 2, 6, 7, 6, 9, 10, 7, 4, 4, 5, 3, 2, 9, 7, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0]
```