

## List Python Exercises

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1. Write a Python program to sum all the items in a list.
2. Write a Python program to multiply all the items in a list.
3. Write a Python program to get the largest number from a list.
4. Write a Python program to get the smallest number from a list.
5. Write a Python program to count the number of strings where the string length is 2 or more and the first and last character are same from a given list of strings.

Sample List : ['abc', 'xyz', 'aba', '1221']

Expected Result : 2

6. Write a Python program to get a list, sorted in increasing order by the last element in each Tuple from a given list of non-empty Tuples.

Sample List : [(2, 5), (1, 2), (4, 4), (2, 3), (2, 1)]

Expected Result : [(2, 1), (1, 2), (2, 3), (4, 4), (2, 5)]

7. Write a Python program to remove duplicates from a list.
8. Write a Python program to check a list is empty or not.
9. Write a Python program to clone or copy a list.
10. Write a Python program to find the list of words that are longer than n from a given list of words.
11. Write a Python function that takes two lists and returns True if they have at least one common member.
12. Write a Python program to print a specified list after removing the 0th, 4th and 5th elements.

Sample List : ['Red', 'Green', 'White', 'Black', 'Pink', 'Yellow']

Expected Output : ['Green', 'White', 'Black']

13. Write a Python program to generate a 3\*4\*6 3D array whose each element is \*.
14. Write a Python program to print the numbers of a specified list after removing even numbers from it.

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15. Write a Python program to shuffle and print a specified list.
16. Write a Python program to generate and print a list of first and last 5 elements where the values are square of numbers between 1 and 30 (both included).
17. Write a Python program to generate and print a list except for the first 5 elements, where the values are square of numbers between 1 and 30 (both included).
18. Write a Python program to generate all permutations of a list in Python.
19. Write a Python program to get the difference between the two lists.
20. Write a Python program access the index of a list.
21. Write a Python program to convert a list of characters into a string
22. Write a Python program to find the index of an item in a specified list.
23. Write a Python program to flatten a shallow list.
24. Write a Python program to append a list to the second list.
25. Write a Python program to select an item randomly from a list.
26. Write a python program to check whether two lists are circularly identical.
27. Write a Python program to find the second smallest number in a list.
28. Write a Python program to find the second largest number in a list
29. Write a Python program to get unique values from a list.
30. Write a Python program to get the frequency of the elements in a list.
31. Write a Python program to count the number of elements in a list within a specified range.
32. Write a Python program to check whether a list contains a sublist.
33. Write a Python program to generate all sublists of a list.
34. Write a Python program using Sieve of Eratosthenes method for computing primes upto a specified number.

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Note: In mathematics, the sieve of Eratosthenes, (Ancient Greek: κόσκινον Ἐρατοσθένους, kóskion Eratosthéous) one of a number of prime number sieves, is a simple, ancient algorithm for finding all prime numbers up to any given limit.

**35.** Write a Python program to create a list by concatenating a given list which range goes from 1 to n.

Sample list : ['p', 'q']

n =5

Sample Output : ['p1', 'q1', 'p2', 'q2', 'p3', 'q3', 'p4', 'q4', 'p5', 'q5']

**36.** Write a Python program to get variable unique identification number or string.

**37.** Write a Python program to find common items from two lists

**38.** Write a Python program to change the position of every n-th value with the (n+1)th in a list.

Sample list: [0,1,2,3,4,5]

Expected Output: [1, 0, 3, 2, 5, 4]

**39.** Write a Python program to convert a list of multiple integers into a single integer.

Sample list: [11, 33, 50]

Expected Output: 113350

**40.** Write a Python program to split a list based on first character of word.

**41.** Write a Python program to create multiple lists.

**42.** Write a Python program to find missing and additional values in two lists. Sample data :

Missing values in second list: b,a,c

Additional values in second list: g,h

**43.** Write a Python program to split a list into different variables.

**44.** Write a Python program to generate groups of five consecutive numbers in a list.

**45.** Write a Python program to convert a pair of values into a sorted unique array.

**46.** Write a Python program to select the odd items of a list.

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**47.** Write a Python program to insert an element before each element of a list. **48.** Write a Python program to print a nested lists (each list on a new line) using the print() function.

**49.** Write a Python program to convert list to list of dictionaries.

Sample lists: ["Black", "Red", "Maroon", "Yellow"], ["#000000", "#FF0000", "#800000", "#FFFF00"]

Expected Output: [{ 'color\_name': 'Black', 'color\_code': '#000000'}, { 'color\_name': 'Red', 'color\_code': '#FF0000'}, { 'color\_name': 'Maroon', 'color\_code': '#800000'}, { 'color\_name': 'Yellow', 'color\_code': '#FFFF00'}]

**50.** Write a Python program to sort a list of nested dictionaries.

**51.** Write a Python program to split a list every Nth element.

Sample list: ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j', 'k', 'l', 'm', 'n']

Expected Output: [['a', 'd', 'g', 'j', 'm'], ['b', 'e', 'h', 'k', 'n'], ['c', 'f', 'i', 'l']]

**52.** Write a Python program to compute the similarity between two lists. Sample data: ["red", "orange", "green", "blue", "white"], ["black", "yellow", "green", "blue"]

Expected Output:

Color1-Color2: ['white', 'orange', 'red']

Color2-Color1: ['black', 'yellow']

**53.** Write a Python program to create a list with infinite elements.

**54.** Write a Python program to concatenate elements of a list.

**55.** Write a Python program to remove key values pairs from a list of dictionaries.

**56.** Write a Python program to convert a string to a list.

**57.** Write a Python program to check if all items of a list is equal to a given string.

**58.** Write a Python program to replace the last element in a list with another list. Sample data :  
[1, 3, 5, 7, 9, 10], [2, 4, 6, 8]

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

**59.** Write a Python program to check if the n-th element exists in a given list.

**60.** Write a Python program to find a tuple, the smallest second index value from a list of tuples.

**61.** Write a Python program to create a list of empty dictionaries.

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**62.** Write a Python program to print a list of space-separated elements.

**63.** Write a Python program to insert a given string at the beginning of all items in a list.

Sample list : [1,2,3,4], string : emp

Expected output : ['emp1', 'emp2', 'emp3', 'emp4']

**64.** Write a Python program to iterate over two lists simultaneously.

**65.** Write a Python program to access dictionary keys element by index.

**66.** Write a Python program to find the list in a list of lists whose sum of elements is the highest. Sample lists: [1,2,3], [4,5,6], [10,11,12], [7,8,9]

Expected Output: [10, 11, 12]

**67.** Write a Python program to find all the values in a list are greater than a specified number.

**68.** Write a Python program to extend a list without append. Sample data: [10, 20, 30]  
[40, 50, 60]

Expected output : [40, 50, 60, 10, 20, 30]

**69.** Write a Python program to remove duplicates from a list of lists. Sample list : [[10, 20], [40], [30, 56, 25], [10, 20], [33], [40]]

New List : [[10, 20], [30, 56, 25], [33], [40]]

**70.** Write a Python program to get the depth of a dictionary.

**71.** Write a Python program to check if all dictionaries in a list are empty or not.

Sample list : [{},{},{}]

Return value : True

Sample list : [{1,2},{},{}]

Return value : False