Lists

No.	Title	Description	Completed	Play
1	Create List	A list behaves like a container, and it is able to contain more than one value. Create a list with the values as shown in the example below.	✔	▶
2	Add items to List	A list can be modified, and more elements can be added to an existing list. Use the append(x) function to add some more items to the list to produce the same content shown in the sample below.	✔	▶
3	Remove Item from List	A list can be modified, and elements can be removed from an existing list. Use the remove(x) function to remove some items from the list shown in the sample given below so that the list is left with the following content: ['hello', 'python','programming'].	✔	▶
4	Add numbers in a List	Write a function addNumbersInList(numbers) to add all the numbers in a list. To access each element in a list, you can use the statement '**for** num **in** numbers:'.	✔	▶
5	Add odd numbers in a List	Write a function addOddNumbers(numbers) to add all the odd numbers in a list. To access each element in a list, you can use the statement 'for num in numbers:'.	✔	▶
6	Count odd numbers	Write a function countOddNumbers(numbers) to count the number of odd numbers in a list.	✔	▶
7	Get Even Numbers	Write a function getEvenNumbers(numbers) to return all the even numbers in a list.	✔	▶
8	Remove First and Last	Write a function removeFirstAndLast(list) that takes in a list as an argument and remove the first and last elements from the list. The function will return a list with the remaining items.	✔	▶
9	Get Maximum Number	Write a function getMaxNumber(numbers) that returns the maximum number in a list.	✔	▶
10	Get Minimum Number	Write a function getMinNumber(numbers) that returns the minimum number in a list.	✔	▶
11	Matrix Multiplication	Write a function that does matrix multiplication. The product of a **m**x**n** matrix with a **n**x**p** matrix results in a **m**x**p** matrix. A mxn matrix, with m rows and n columns, can be represented using nested lists. $A_{m,n} = [\ [x_{11}, x_{12}, ..., x_{1n}], ..., [x_{m1}, ..., x_{mn}]\ ]$	✔	▶
12	Invoking Function	A list can be modified. You can add more item to a list or change its existing content. Choose the appropriate method to modify a list.	✔	▶
13	Matrix Dimension	A mxn matrix, m rows and n columns, can be represented using nested lists. Write a function that returns the diminensions of a matrix.	✔	▶
14	Variable to Object References.	In Python, variables are linked to objects by references.	✔	▶
15	Variable to Object References II.	In Python, variables are linked to objects by references.	✔	▶
16	Combining List	Write a function combine(la, lb) that takes in two lists and return a list with the contents of both list sorted in ascending order.	✔	▶
17	Transpose of a Matrix	The *transpose* of a matrix M, denoted M^T, is formed by interchanging the rows and columns of M. That is, a mxn matrix is transformed into a nxm matrix. $[M^T]_{ij} = [M]_{ji}$. Write a function that returns the transpose of a matrix.	✔	▶
18	List Operations	You can use the mathematical operators: '+' and '*' with the list.	✔	▶
19	Cumulative Sum	Write a function calCumulativeSum(numbers) that takes in a list of numbers as argument and returns the cumulative sum of the list. That is, the new list where the *i* element is the sum of the first *i* + 1 elements from the original list. For example, the cumulative sum of [1, 2, 3] is [1, 3, 6].	✔	▶
20	Combine List	Write a function combineList(list1, list2) that takes in two lists as arguments and return a list that combines all the elements in the two list.	✔	▶
21	Subtract List	Write a function (list1, list2) that takes in two lists as arguments and return a list that is the result of removing elements from list1 that can be found in list2.	✔	▶
22	Count Letters (Sorted)	Write a function countLetters(word) that takes in a word as argument and returns a list of tuples that shows the number of times each letter appears. The letters must be sorted in alphabetical order.	✔	▶
23	Number Sequence	Write a function getNumbers(number) that takes in a number as argument and return a list of numbers as shown in the samples given below.	✔	▶
24	Sum of First Digit	Write a function getSumOfFirstDigit(numList) that takes in a list of positive numbers and returns the sum of all the first digit in the list.	✔	▶
25	List operations	List operations: Using "append" and "extend" to add list elements.	✔	▶
26	List Comprehension	List comprehension offers a concise way to derive a new list from an existing list or sequence. Given a list of numbers, write a function that returns the numbers that are greater than the average.	✔	▶