

Nested Loop Challenge

Write a Python script that uses nested loops to print a pattern of numbers as follows:

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

Palindrome Check ABBA

Write a Python script that takes a string as input and checks if it is a palindrome. A palindrome is a word, phrase, number, or other sequence of characters that reads the same forward and backward (ignoring spaces, punctuation, and capitalization).

Fibonacci Sequence

Write a Python script to generate the first 20 numbers of the Fibonacci sequence using a while loop. The Fibonacci sequence is a series of numbers in which each number is the sum of the two preceding ones, usually starting with 0 and 1.

Prime Numbers

Write a Python script to find and print all prime numbers between 1 and 100 using a for loop. A prime number is a natural number greater than 1 that is not a product of two smaller natural numbers.

Write a Python program to count the number of strings from a given list of strings. The string length is 2 or more and the first and last characters are the same.

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

Expected Result : 2

Write a Python program to remove duplicates from a list.

****** Write a Python program to check if each number is prime in a given list of numbers.

Return True if all numbers are prime otherwise False.

Sample Data:

([0, 3, 4, 7, 9]) -> False

([3, 5, 7, 13]) -> True

([1, 5, 3]) -> False

**** Write a Python program to find a list with maximum and minimum lengths.**

Original list:

[[0], [1, 3], [5, 7], [9, 11], [13, 15, 17]]

List with maximum length of lists:

(3, [13, 15, 17])

List with minimum length of lists:

(1, [0])

Original list:

[[0], [1, 3], [5, 7], [9, 11], [3, 5, 7]]

List with maximum length of lists:

(3, [3, 5, 7])

List with minimum length of lists:

(1, [0])

Original list:

[[12], [1, 3], [1, 34, 5, 7], [9, 11], [3, 5, 7]]

List with maximum length of lists:

(4, [1, 34, 5, 7])

List with minimum length of lists:

(1, [12])