lesson2

1. Write a program that receives a sentence from the user (assume it is at least 50 characters long) and prints the following:
   ● The first 8 characters
   ● The last 6 characters
   ● Every third character
   ● The first quarter of the string
   ● The string in uppercase letters
   ● the string is reversed

2. Write a program to count the number of characters (character frequency) in a string.
   Sample String : google.com'
   Expected Result : {'g': 2, 'o': 3, 'l': 1, 'e': 1, '.': 1, 'c': 1, 'm': 1}

3. Write a program to get a string made of the first 2 and last 2 characters of a given string. If the string length is less than 2, return the empty string instead.
   Sample String : 'python'
   Expected Result : 'pyon'
   Sample String : 'py''
   Expected Result : 'pypy'
   Sample String : 'p'
   Expected Result : Empty String

4. Write a program to create a new string made of an input string's:
   a. first, middle, and last character.
      Sample String : 'Tamar'
      Expected Result : 'Tmr'
   b. the middle three characters of an input string.
      Sample String : 'Tamar'
      Expected Result : 'ama'

5. Write a program to calculate the sum of series up to n term.
   For example, if n =5 the series will become
   2 + 22 + 222 + 2222 + 22222 = 24690

6. 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']

7. Write a program to create a new list based on a list of fruits, containing only the fruits with the letter "a" in the name:
   fruits = ["apple", "banana", "cherry", "kiwi", "mango"]
   Expected Output : ['apple', 'banana', 'mango']
   * try to do all that with only one line of code.

8. Given two lists, l1 and l2, write a program to create a third list l3 by picking an odd-index element from the list l1 and even index elements from the list l2.
   Sample Lists:
   l1 = [3, 6, 9, 12, 15, 18, 21]
   l2 = [4, 8, 12, 16, 20, 24, 28]
   Expected Output :
   Element at odd-index positions from list one: [6, 12, 18]
   Element at even-index positions from list two: [4, 12, 20, 28]
   Printing Final third list: [6, 12, 18, 4, 12, 20, 28]

9. Write a program to create a Fibonacci Sequence.
   The Fibonacci Sequence is a series of numbers. The next number is found by adding up the two numbers before it. The first numbers are 0 and 1.
   Expected output:
   Fibonacci sequence: 0 1 1 2 3 5 8 13 21 34

10. Write a program to print a dictionary where the keys are numbers between 1 and 15 (both included) and the values are the square of the keys.
    Sample Dictionary
    {1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100, 11: 121, 12: 144, 13: 169, 14: 196, 15: 225}