**WORK SHEET FOR PRACTICE - 5**

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1. **Write a program.**

You are given a 0-indexed array of strings words and a character x.

Print an List of indices representing the words that contain the character x.

Note that the printed list may be in any order.

Example 1:

Input: words = ["meet","red"], x = "e"

Output: [0,1]

Explanation: "e" occurs in both words: "meet", and "red". Hence, we return indices 0 and 1.

Example 2:

Input: words = ["abc","bcd","aaaa","cbc"], x = "a"

Output: [0,2]

Explanation: "a" occurs in "abc", and "aaaa". Hence, we return indices 0 and 2.

**2.** **Write a program.**

Given two non-negative integers num1 and num2 represented as strings, print the product of num1 and num2, also represented as a string.

Example 1:

Input: num1 = "2", num2 = "3"

Output: "6"

Example 2:

Input: num1 = "123", num2 = "456"

Output: "56088"

**3.** **Write a program.**

Given a string s consisting of words and spaces, print the length of the last word in the string.

A word is a maximal substring consisting of non-space characters only.

Example 1:

Input: s = "Hello World"

Output: 5

Explanation: The last word is "World" with length 5.

Example 2:

Input: s = " fly me to the moon "

Output: 4

Explanation: The last word is "moon" with length 4.

Example 3:

Input: s = "luffy is still joyboy"

Output: 6

Explanation: The last word is "joyboy" with length 6.

**4 . Write a program**

Given a non-empty list of integers nums, every element appears twice except for one. Find that single one.

You must implement a solution with a linear runtime complexity and use only constant extra space.

Example 1:

Input: nums = [2,2,1]

Output: 1

Example 2:

Input: nums = [4,1,2,1,2]

Output: 4

Example 3:

Input: nums = [1]

Output: 1

**5. Write a program**

Write a program to reverse a list starting from the k-th element. If the list has fewer than k elements, return the original list. Provide the function definition and a sample input/output.

Sample Input:

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

k: 3

Sample Output:

Reversed List from 3rd Element: [1, 2, 8, 7, 6, 5, 4, 3]

Sample Input:

List: [1, 2, 3]

k: 5

Sample Output:

Original List: [1, 2, 3] remain same because the length of list is less than K

6. Which of the following represents a list, tuple, dictionary, and string respectively?

A) [1, 2, 3], ("apple", "banana", "orange"), {"name": "John", "age": 30}, "Hello"

B) (1, 2, 3), ["apple", "banana", "orange"], {"name": "John", "age": 30}, "Hello"

C) {"apple", "banana", "orange"}, (1, 2, 3), ["name": "John", "age": 30], "Hello"

D) {"apple", "banana", "orange"}, (1, 2, 3), {"name": "John", "age": 30}, "Hello"

7. Which of the following data structures in Python is mutable?

A) Tuple

B) List

C) String

D) Dictionary

8. What is the output of the following code snippet?

my\_dict = {"apple": 2, "orange": 1 , “banana “:3}

print(sorted(my\_dict))

A) ["apple", "banana", "orange"]

B) [1,2,3]

C) {"apple": 2, "banana": 3, "orange": 1}

9. Which of the following is a valid way to declare a tuple with a single element?

A) my\_tuple = (1)

B) my\_tuple = (1,)

c) my\_tuple = [1]

10 . Which method is used to remove an item from a dictionary in Python?

A) pop()

B) delete()

C) remove()

D) discard()

11. Given a dictionary my\_dict = {"name": "Alice", "age": 30}, how would you update Alice's age to 31? Multiple correct answer

(a) my\_dict["age"] = 31

(b) my\_dict.update({"age": 31})

(c) my\_dict.add("age", 31)

(d) my\_dict["age"].update(31)

12. Suppose t = (1, 2, 4, 3), which of the following is incorrect?

a) print(t[3])

b) t[3] = 45

c) print(max(t))

d) print(len(t))

13 . What will be the Output ?

t= (1,2,4,3)

Print(t[1:-1])

a) (1, 2)

b) (1, 2, 4)

c) (2, 4)

d) (2, 4, 3)

14 . What will be the Output ?

t = (1, 2)

Print( 2 \* t )

a) (1, 2, 1, 2)

b) [1, 2, 1, 2]

c) (1, 1, 2, 2)

d) [1, 1, 2, 2]