**Task 2- Collections in Python**

**Problem 1: List Manipulation**

You are given a list of numbers: my\_list = [3, 6, 9, 12, 15]. Perform the following operations:

a) Append the value 18 to the list.

b) Insert the value 7 at the 2nd index.

c) Remove the element 12 from the list.

d) Print the final list.

**Problem 2: Dictionary Operations**

You have a dictionary representing a student's information:

**student\_info = {'name': 'Alice', 'age': 20, 'major': 'Computer Science'}.**

Perform the following operations:

a) Add a new key 'gpa' with the value 3.5 to the dictionary.

b) Check if the key 'age' is present in the dictionary.

c) Print all the keys and their corresponding values.

**Problem 3: Set Operations**

Consider the following two sets:

**set1 = {1, 2, 3, 4, 5} and set2 = {4, 5, 6, 7, 8}.**

Perform the following operations:

a) Find the union of the two sets.

b) Find the intersection of the two sets.

c) Find the difference between the two sets.

**Guidelines:**

Create a Python script or Jupyter Notebook to write your code.

Clearly label the solutions to each problem.

Add comments to explain your code where necessary.

Test your code with the provided data and with additional data if necessary to ensure its correctness.

Provide the output generated by your code as well.