Sets Practice Questions:

Basic:

- 1. Create a set containing the characters in the string "hello world".
- 2. Check if the letter 'a' is in the set you created in question 1.
- 3. Add the number 5 to the set and remove the element 'd' (if it exists).
- 4. Iterate over the elements in the set and print them in descending order (hint: sets are unordered, so you'll need to convert them to a list first).

Intermediate:

- 5. Find the intersection of two sets: {1, 3, 5} and {2, 4, 5}.
- 6. Find the difference between two sets: {apple, banana, orange} and {banana, grape, kiwi}.
- 7. Combine two sets using the union operation to get all unique elements.
- 8. Create a new set containing all even numbers between 1 and 10 (inclusive).

Advanced:

- 9. Check if one set is a subset of another set.
- 10. Remove all duplicates from a list using sets.
- 11. Write a function that takes a list of words and returns a set of unique words (ignoring case).

Dictionaries Practice Questions:

Basic:

- Create a dictionary to store information about a book, including title, author, and year published.
- 2. Access the value associated with the key "author" in the dictionary you created in question 1.

- 3. Update the value for the key "year published" to 2024.
- 4. Check if the key "genre" exists in the dictionary.
- 5. Iterate over the key-value pairs in the dictionary and print them in a formatted way (e.g., "Title: {title}, Author: {author}").

Intermediate:

- 6. Merge two dictionaries: one containing student information (name, age) and another containing course information (course name, grade).
- 7. Get the value for the key "grade" using a default value of "N/A" if the key is missing.
- 8. Remove a key-value pair from the dictionary.

Advanced:

- 9. Count the occurrences of each word in a sentence using a dictionary.
- 10. Sort a dictionary by its keys or values.
- 11. Write a function that takes a list of dictionaries (representing products) and returns a dictionary where keys are product categories and values are lists of products in that category.