Stream exercises

create 7 more exercises like the ones you created here. keep the level just above exercise 6 and below exercise 7

**ChatGPT said:**

ChatGPT

Here are **seven more exercises** at a difficulty level between **Exercise 6 (grouping words by length)** and **Exercise 7 (finding the most frequent character).**

**1. Sort Words by Frequency of Occurrence**

**Task:**  
Write a method that takes a list of words and returns a sorted list of words by their frequency in descending order.

**Example Input:**

java

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List<String> words = List.of("apple", "banana", "apple", "cherry", "banana", "banana");

**Expected Output:**

java

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["banana", "apple", "cherry"]

(“banana” appears **3 times**, “apple” **2 times**, and “cherry” **1 time**)

**2. Find the Longest Word in a List**

**Task:**  
Write a method that takes a list of words and returns the longest word. If multiple words have the same length, return any one of them.

**Example Input:**

java

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List<String> words = List.of("apple", "banana", "cherry", "blueberry");

**Expected Output:**

java

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"blueberry"

**3. Count Unique Characters in a String**

**Task:**  
Write a method that takes a string and returns the number of unique characters in it.

**Example Input:**

java

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String text = "hello";

**Expected Output:**

java

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4 // Unique characters: 'h', 'e', 'l', 'o' (since 'l' repeats)

**4. Merge Two Lists and Remove Duplicates**

**Task:**  
Write a method that takes two lists of integers and returns a single list containing all unique elements, sorted in ascending order.

**Example Input:**

java

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List<Integer> list1 = List.of(3, 1, 4, 1, 5);

List<Integer> list2 = List.of(5, 9, 2, 6, 5, 3);

**Expected Output:**

java

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[1, 2, 3, 4, 5, 6, 9]

**5. Find the Most Common Word in a Sentence**

**Task:**  
Write a method that takes a sentence (a string) and returns the most frequently occurring word, ignoring case.

**Example Input:**

java

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String sentence = "Java is great and Java is powerful";

**Expected Output:**

java

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"java"

**6. Compute the Average Word Length in a Sentence**

**Task:**  
Write a method that takes a sentence and returns the **average length** of the words in it, rounded to two decimal places.

**Example Input:**

java

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String sentence = "Java streams are powerful";

**Expected Output:**

java

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5.33 // (4+7+3+8) / 4 = 22 / 4 = 5.33

**7. Find All Anagrams in a List of Words**

**Task:**  
Write a method that takes a list of words and groups them into sets of anagrams.

**Example Input:**

java

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List<String> words = List.of("listen", "silent", "enlist", "rat", "tar", "art");

**Expected Output:**

java

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{

[listen, silent, enlist],

[rat, tar, art]

}

These exercises involve a mix of **grouping, filtering, counting, sorting, and mapping** in **Java Streams**. Let me know if you'd like solutions for any of them! 🚀