Stream Questions

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Stream Solutions

1. Filter Even Numbers from a List

import java.util.Arrays;  
import java.util.List;  
import java.util.stream.Collectors;  
  
public class Main {  
 public static void main(String[] args) {  
 List<Integer> numbers = Arrays.asList(1, 2, 3, 4, 5, 6);  
 List<Integer> evenNumbers = numbers.stream()  
 .filter(n -> n % 2 == 0)  
 .collect(Collectors.toList());  
 System.*out*.println(evenNumbers); // Output: [2, 4, 6]  
 }  
}

2. Find the First Element Greater Than 10

import java.util.Arrays;  
import java.util.List;  
import java.util.Optional;  
  
public class Main {  
 public static void main(String[] args) {  
 List<Integer> numbers = Arrays.asList(5, 8, 13, 21, 3);  
 Optional<Integer> firstNumber = numbers.stream()  
 .filter(n -> n > 10)  
 .findFirst();  
 System.*out*.println(firstNumber.orElse(-1)); // Output: 13  
 }  
}

1. Sum of All Numbers in a List

import java.util.Arrays;  
import java.util.List;  
  
public class Main {  
 public static void main(String[] args) {  
 List<Integer> numbers = Arrays.asList(1, 2, 3, 4, 5);  
 int sum = numbers.stream()  
 .mapToInt(Integer::intValue)  
 .sum();  
 System.*out*.println(sum); // Output: 15  
 }  
}

1. Sort a List of Strings

import java.util.Arrays;  
import java.util.List;  
import java.util.stream.Collectors;  
  
public class Main {  
 public static void main(String[] args) {  
 List<String> words = Arrays.asList("banana", "apple", "cherry");  
 List<String> sortedWords = words.stream()  
 .sorted()  
 .collect(Collectors.toList());  
 System.*out*.println(sortedWords); // Output: [apple, banana, cherry]  
 }  
}

1. Convert a List of Strings to Uppercase

import java.util.Arrays;  
import java.util.List;  
import java.util.stream.Collectors;  
  
public class Main {  
 public static void main(String[] args) {  
 List<String> words = Arrays.asList("java", "streams", "coding");  
 List<String> uppercaseWords = words.stream()  
 .map(String::toUpperCase)  
 .collect(Collectors.toList());  
 System.*out*.println(uppercaseWords); // Output: [JAVA, STREAMS, CODING]  
 }  
}

1. Remove Duplicates from a List

import java.util.Arrays;  
import java.util.List;  
import java.util.stream.Collectors;  
  
public class Main {  
 public static void main(String[] args) {  
 List<Integer> numbers = Arrays.asList(1, 2, 2, 3, 4, 4, 5);  
 List<Integer> uniqueNumbers = numbers.stream()  
 .distinct()  
 .collect(Collectors.toList());  
 System.*out*.println(uniqueNumbers); // Output: [1, 2, 3, 4, 5]  
 }  
}

7. Find the Average of Numbers

import java.util.Arrays;  
import java.util.List;  
  
public class Main {  
 public static void main(String[] args) {  
 List<Integer> numbers = Arrays.asList(1, 2, 3, 4, 5);  
 double average = numbers.stream()  
 .mapToInt(Integer::intValue)  
 .average().toElse(0);  
 System.*out*.println(average); // Output: 3.0  
 }  
}

8. Group Strings by Their Length

import java.util.Arrays;  
import java.util.List;  
import java.util.Map;  
import java.util.stream.Collectors;  
  
public class Main {  
 public static void main(String[] args) {  
 List<String> words = Arrays.*asList*("java", "streams", "ai", "ml", "code");  
 Map<Integer, List<String>> groupedByLength = words.stream()  
 .collect(Collectors.groupingBy(String::length));  
 System.*out*.println(groupedByLength);  
 // Output: {2=[ai, ml], 4=[java, code], 7=[streams]}  
 }  
}