**Exercise 1: ArrayList Manipulation**

**Create an ArrayList of integers. Perform the following operations:**

**Add numbers from 1 to 10 to the list.**

**Remove all even numbers.**

**Print the contents of the list.**

**Exercise 2: HashMap Operations**

**Create a HashMap to store the names of countries as keys and their capitals as values. Perform the following operations:**

**Add at least five country-capital pairs to the map.**

**Check if a given country is present in the map.**

**Retrieve and print the capital of a specific country.**

**Print all countries and capitals using a loop.**

**Exercise 3: HashSet Deduplication**

**Create a HashSet of strings. Add some duplicate strings and non-duplicate strings to the set.**

**Print the size of the set before and after adding elements.**

**Iterate through the set and print its contents.**

**Exercise 4: LinkedList Manipulation**

**Create a LinkedList of strings. Perform the following operations:**

**Add "apple," "banana," and "cherry" to the list.**

**Add "date" at the beginning of the list.**

**Add "grape" at index 2.**

**Remove the last element.**

**Print the contents of the list.**

**Exercise 5: TreeSet Sorting**

**Create a TreeSet of integers. Add random integers to the set.**

**Print the elements in ascending order.**

**Use the lower() and higher() methods to find the lower and higher elements relative to a given value.**

**Exercise 6: Stack Implementation**

**Implement a basic stack using the Stack class in Java. Perform the following operations:**

**Push elements onto the stack.**

**Pop elements from the stack.**

**Print the elements after each push/pop operation.**

**Exercise 7: Queue Operations**

**Create a Queue of strings using the LinkedList class. Perform the following operations:**

**Enqueue several elements.**

**Dequeue elements.**

**Print the elements after each enqueue/dequeue operation.**

**Exercise 8: TreeMap Usage**

**Create a TreeMap that stores names of people as keys and their ages as values. Perform the following operations:**

**Add several name-age pairs to the map.**

**Print the entries in ascending order of ages.**