Algorithms and Data Structure Lab 1

Write a Java program that checks whether a given integer is a prime number or not. Additionally, the program should list all the prime numbers in a specified range.

Example Output:

1. Check if a number is prime

2. List prime numbers in a range

Choose an option (1 or 2): 1

Enter a number: 13

13 is a prime number.

1. Check if a number is prime

2. List prime numbers in a range

Choose an option (1 or 2): 2

Enter the start of the range: 10

Enter the end of the range: 30

Prime numbers in the range [10, 30]: 11 13 17 19 23 29

Additional Instructions:
Option 1: Implement a function to check if a given integer is a prime number and display an appropriate message.
Option 2: Implement a function to list all prime numbers within a specified range and display them.
Use a menu system to allow the user to choose between these two options and loop until they decide to exit.