Here is one possible solution. Remember that the JOptionPane returns a string value, and so it must be converted to an int using either `Integer.parseInt()`. If `upperBound` is less than `lowerBound`, we do not want to execute the loop since this is an invalid range. The loop is defined in the else clause (i.e., if the range is valid). We are using the remainder (%) operator to determine whether the number is even. Note that we used a while loop (not a do-while) because it is possible that the loop may not be executed at all (which happens if `lowerBound > upperBound`). As usual, because we use JOptionPane, we explicitly terminate the program using `System.exit(0).

```java
import java.awt.*;

public class EvensInRange {
    public static void main(String[] args) {
        String lowerBoundStr, upperBoundStr;
        lowerBoundStr = JOptionPane.showInputDialog("Enter lower bound");
        upperBoundStr = JOptionPane.showInputDialog("Enter upper bound");

        int lowerBound = Integer.parseInt(lowerBoundStr);
        int upperBound = Integer.parseInt(upperBoundStr);

        if (lowerBound >= upperBound) {
            System.out.println("Invalid Range");
        } else {
            while (lowerBound <= upperBound) {
                if (lowerBound % 2 == 0) {
                    System.out.println(lowerBound);
                }
                lowerBound++;
            }
        }
        System.exit(0);
    }
}
```