

# Range List

## Guidelines

In this part of the interview process, we'd like you to come up with an algorithm to solve the problem as described below. The problem itself is quite simple to solve. What we are mainly looking for in this test (other than that the solution should work) is, how well you actually write the code. We want to see how you **write production-quality code in a team setting** where multiple developers will be collaborating on the codebase.

Specifically, we are looking for: simple, clean, readable and maintainable code, for example:

- Code organization and submission format. Things like code organization, readability, documentation, testing and deliverability are most important here.
- Your mastery of idiomatic programming.

The solution is preferred to be in JavaScript. We understand that you may not have much experience with JS. We encourage you to take some time to research modern JS and best practices, and try your best to apply them when writing your test solution.

If you choose to use a programming language other than JS, please still make sure you stick to the idiomatic way of that programming language.

## Problem Set

Please **use the exact class name, method name and input/output formats** in this code template.

```
// Task: Implement a class named 'RangeList'
// A pair of integers define a range, for example: [1, 5). This range includes
// integers: 1, 2, 3, and 4.
// A range list is an aggregate of these ranges: [1, 5), [10, 11), [100, 201)

/**
 *
 * NOTE: Feel free to add any extra member variables/functions you like.
 */
class RangeList {
  /**
   *
   * Adds a range to the list
   * @param {Array<number>} range - Array of two integers that specify beginning and
   * end of range.
   */
  add(range) {
    // TODO: implement this
  }

  /**
   *
   * Removes a range from the list
   * @param {Array<number>} range - Array of two integers that specify beginning and
   * end of range.
  */
}
```

```

    */
    remove(range) {
        // TODO: implement this
    }

    /**
     *
     * Convert the list of ranges in the range list to a string
     * @returns A string representation of the range list
     */
    toString() {
        // TODO: implement this
    }
}

// Example run
const rl = new RangeList();
rl.toString(); // Should be ""

rl.add([1, 5]);
rl.toString(); // Should be: "[1, 5]"

rl.add([10, 20]);
rl.toString(); // Should be: "[1, 5) [10, 20)"

rl.add([20, 20]);
rl.toString(); // Should be: "[1, 5) [10, 20)"

rl.add([20, 21]);
rl.toString(); // Should be: "[1, 5) [10, 21)"

rl.add([2, 4]);
rl.toString(); // Should be: "[1, 5) [10, 21)"

rl.add([3, 8]);
rl.toString(); // Should be: "[1, 8) [10, 21)"

rl.remove([10, 10]);
rl.toString(); // Should be: "[1, 8) [10, 21)"

rl.remove([10, 11]);
rl.toString(); // Should be: "[1, 8) [11, 21)"

rl.remove([15, 17]);
rl.toString(); // Should be: "[1, 8) [11, 15) [17, 21)"

rl.remove([3, 19]);
rl.toString(); // Should be: "[1, 3) [19, 21)"

```