

Preface

There are many different ways to solve this problem. It's intended to be a bare metal "design project" - Java and unit testing, only use frameworks/libraries that help solve the problem. The goal is to quantify how you think about the logic, how you design things, how you organize responsibilities, and how you test. The project will be reviewed according to your experience level.

The project should take around 3 hours to complete and does not have to be "perfect". If you find yourself spending too much time on the problem, send what you have with an explanation of what you planned on doing.

Here are a few things to keep in mind:

- Code should be easily readable and maintainable, built for a production system.
- If you need to store data, using an in memory "database" is OK. (simple Collections are fine)
- The application may be used by many users at the same time.
- Include unit tests to validate your application's functionality.
- Feel free to use any build tools you are comfortable with. If it's anything other than standard Gradle or Maven, please document how to build/run your solution.
- Complete Part 1 before reading ahead to Part 2.
- **Be wary of framework and interface extras that take time away from building the main application.**

Directions

1. You'll need git installed to complete this project. Please install it if you haven't already.
2. Create a new local git repository for this project (e.g. `git init`)
3. Please complete the 2 parts below sequentially. After each committing your work for each part, please create a tag (e.g. `git tag -a 'part1' -m 'GiftExchange Part 1'`)
4. When you're done, create a git bundle to send to us (e.g. `git bundle create giftExchange{YourName}.bundle master`)

Problem Parts

Part One

Imagine that every year your extended family does a gift exchange. For this gift exchange, each person draws another person at random and then gets a gift for them (obviously, a person cannot be their own gift exchanger). Write a program that will choose a Gift Giver for everyone given a list of all the members of your extended family.

Part Two

As your extended family has grown, members have gotten married and/or had children. Those families usually get gifts for members of their immediate family, so it doesn't make sense for anyone to be a Gift Giver for a member of their immediate family (spouse, parents, or children). Modify your program to take this constraint into consideration when choosing Gift Givers.