

SIMON FRASER UNIVERSITY
Department of Computing Science
CMPT 276: Assignments

Assignment 4: Code Review

This is a group assignment (groups of two). Each student has to pair up with another student from the same team to complete the assignment (two groups of two per team).

This code review should be done after phase 3 of the project is complete.

Create a new branch of your project “Assignment4”. Upload the report under the same “Documents” directory in your team’s repository. The report should be named “CodeReview-Name1-Name2.pdf.”

The TAs will mark the report along with the history and final version of your code on SFU GitHub on the specified deadline. See the Schedule page on Canvas for deadlines.

Code Review

You will work in groups of two. Pair up with one of your team members. You will choose a part of the code that the two of you have implemented, over which you will perform a manual code review.

Identify at least eight code smells in code written by one of the two people performing the code review. Refactor the identified smells to improve your design and code quality. Rerun your tests after each change to ensure you are preserving the behaviour of your program. Make sure to continually commit and push the refactored code. In your report, document the smells you have identified, and your solutions for addressing the detected smells and the performed refactoring. Point to the relevant code and commits from your report when explaining the refactorings.

Some ideas for things to look for include:

- bad/confusing variable names
- methods that are too long and that could benefit from being refactored
- classes that are too large and/or try to do too much
- low cohesion
- high coupling
- long list of method parameters • lack of documentation
- poorly structured code
- confusing class hierarchy
- badly structured project (i.e., file setup)
- dead code
- code duplication
- unused or useless variables
- unnecessary use of unsafe or unsound constructs
- data clumps
- unjustified use of primitives
- unnecessary if/else or switch/case statements

Deliverables

- **The code:** commit and push refactored code to your group's repository on the "Assignment4" branch. (Don't refactor the main project code right before the project deadline!)
- **The report:** should include everything required above and should be at most two pages. Name your report file "*CodeReview-Name1-Name2.pdf*" and place it in the "Documents" directory on your group's repository on the "Assignment4" branch.