

Project Handout

Course: Software Configuration Management (SWE 442)

Project Title: Version Control and Release Management for a Java Utility Tool

Total marks: 10 Points

Deadline: November 28, 2025

This project can be completed in a **group of two students**.

CLO 2.3 (S4), CLO 3.1 (V1)

Objective

This project helps you practice essential configuration management skills using Git and GitHub. You'll apply version control, create and merge branches, simulate software releases, and document your work.

Project Overview

You will develop and manage a simple Java utility tool using Git and GitHub. Your work should simulate real software development tasks, such as branching for new features, resolving conflicts, tagging releases, and maintaining changelogs.

Tasks Breakdown

<u>Task</u>	<u>Description</u>	<u>Points</u>
1. Project Setup	Upload a basic Java program to your GitHub repository and include a properly written README file.	1 point

2. Feature Branching	Create at least two separate branches, each adding a new feature or improvement to your tool (the uploaded code).	2 points
3. Merging and Conflicts	Merge both branches into the main branch using pull requests or Git CLI. Intentionally create and resolve one merge conflict (screenshot required).	2 points
4. Version Tagging	Create at least two tagged releases (e.g., v1.0 and v1.1). Write a short changelog for each release in a file named RELEASE_NOTES.md	2 points
5. Final Report	Submit a 1–2 page report (PDF) answering the questions below and present your project.	3 points

Final Report Questions

- What does your tool do?
- What features were added?
- How were branches and merging handled?
- Evidence of tags/releases
- What is the purpose of tagging a release in version control?
- Compare GitHub with another SCM tool like GitLab or Bitbucket.
- What part of the SCM process did you find most useful or interesting, and why?