Dire Dawa University

Institute of Technology School of computing

Department of Software Engineering

Software engineering tools and practices Assignment (20%)

Question 1:

UML to Java Code Conversion using ArgoUML

Tasks:

- Design a Library Management System in ArgoUML.
    - Classes to create: Book, Author, Member, Librarian, Loan.
    - Relationships:
        - A Book has one or more Authors.
        - A Member can borrow multiple Books (via Loan).
        - A Librarian manages the addition/removal of Books.
- Include attributes and methods in each class.
- Generate Java source code from your ArgoUML model.
- Save the project as LibrarySystem.zargo.

Deliverables:

- Submit the LibrarySystem.zargo file.
- Submit the exported Java source code files.

Question 2:

Project Version Control using Git, GitHub, and VS Code

Tasks:

- Open the generated Java code (you can use any other types of code) in **VS Code**.
- Initialize a **local Git repository** (git init).
- Create a .gitignore file (ignore .class files).
- Make an initial commit: Initial commit - Java code generated from UML.
- Create a remote repository on **GitHub** and push the project there.
- Create a **new branch** called LoanManagement.
    - In the LoanManagement branch:
        - Complete the Loan class functionality (methods like borrowBook, returnBook).
        - Add appropriate validations.
- Push the branch to GitHub.
- Create a **Pull Request (PR)** from LoanManagement to main/master.

- After PR approval, **merge** the branch.
- **Pull** the latest changes back into your local main branch.

Deliverables:

- GitHub Repository Link.
- Short README.md explaining:
    - How you used Git commands (init, add, commit, push, pull, branch).
    - The flow of branching and merging.

Important Points to Cover:

- ArgoUML: Draw UML, Export Java Code.
- VS Code: Edit/Organize Java Code.
- Git: init, add, commit, branch, merge, push, pull.
- GitHub: Create repository, manage Pull Requests.
- Version Control Concepts: Commit history, branching, merging, PRs.

Notice: All group members must be participate and pull, push, commit its own branch by using its email and github account.

Presentation Date: 29/08/2017 E.C.