* **Duration:** 2 hours
* **Total Marks:** 30
* **Individual Collaboration Setup:**
  + Each student must register two distinct GitHub accounts (e.g., Account A and Account B) and use them for the tasks.
* **Topics Covered:**
  + Creating and managing public repositories on GitHub.
  + Setting up local repositories and linking them to GitHub.
  + Simulating open-source collaboration using forking, branching, pull requests, and review/approval between the two accounts.

**Practical Tasks**

**Task A: Create and Explore a GitHub Repository (5 marks)**

**Using Account A:**

1. **Create a Public Repository:**
   * Create a **public** repository on GitHub.
   * Add a descriptive README file to the repository.
2. **Explore GitHub Features:**
   * **Star** your own repository.
   * Navigate to the **Issues** tab and create a sample issue.
   * **Watch** the repository to receive notifications.

**Evaluation (5 marks):**

* 2 marks: Correct creation of the public repository.
* 2 marks: Demonstration of GitHub features (stars, issues, watch).
* 1 mark: Quality and clarity of the README content.

**Task B: Local Repository Setup and Remote Linking (5 marks)**

**Using Account A:**

1. **Initialize a Local Repository:**
   * Create a new folder locally.
   * Run git init to initialize Git.
2. **Add a Sample File:**
   * Create a file (e.g., index.html or main.py) with basic content.
3. **Commit Locally:**
   * Stage and commit the file with a clear commit message.
4. **Connect Local Repo to GitHub:**
   * Add the remote URL of your newly created public repository from Account A.
   * Push your local commit to GitHub (git push -u origin main or master).

**Evaluation (5 marks):**

* 1 mark: Successful local repository initialization.
* 2 marks: Proper commit with an appropriate message.
* 2 marks: Correct linking and successful push to GitHub.

**Task C: Cloning and Modifying a Repository (5 marks)**

**Using Account A:**

1. **Clone Your Own Public Repository:**
   * Use git clone <repo-url> to clone your public repository locally.
2. **Modify the Repository:**
   * Make a change (e.g., add a new file or update existing content).
3. **Commit and Push Changes:**
   * Stage, commit, and push your changes back to GitHub.
   * Verify that the commit appears in the repository’s commit history.

**Evaluation (5 marks):**

* 1 mark: Successful cloning of the repository.
* 2 marks: Meaningful modifications with proper commit messages.
* 2 marks: Successful push and verification on GitHub.

**Task D: Individual Collaboration via Forking, Pull Request, and Approval (10 marks)**

**Using Both Account A and Account B (created by the student):**

1. **Prepare Account A:**
   * Ensure the public repository created in Task A is visible.
2. **Switch to Account B:**
   * Log in to Account B and **fork** the public repository from Account A.
3. **Clone the Fork Locally (Using Account B):**
   * Run git clone <forked-repo-url> using Account B.
4. **Branch and Modify (Using Account B):**
   * Create a new branch (e.g., feature-update) in the forked repository.
   * Make a small change (e.g., update the README or add a new file) to illustrate your contribution.
5. **Commit and Push (Using Account B):**
   * Stage and commit the change on the new branch.
   * Push the branch to your fork on GitHub.
6. **Open a Pull Request (From Account B to Account A):**
   * On GitHub, from Account B’s fork, open a pull request targeting the original repository on Account A.
   * Provide a clear title and detailed description for your pull request.
7. **Review and Approve (Using Account A):**
   * Log back in to Account A, review the pull request submitted by Account B, and approve it (or merge it if instructed).

**Evaluation (10 marks):**

* 2 marks: Successful forking of the repository from Account A using Account B.
* 2 marks: Correct branch creation and local modifications using Account B.
* 2 marks: Proper commit and push from Account B’s branch.
* 3 marks: Clear, well-documented pull request (title, description, and correct target).
* 1 mark: Evidence of review and approval/merging of the pull request from Account A.

**Task E: Reflection & Verification (5 marks)**

**Using either account (or as a combined submission):**

1. **Document Your Workflow:**
   * In a separate text file (or update the repository README), provide a brief summary of the steps you took using both accounts.
   * Highlight any challenges encountered and how you resolved them.
2. **Verification:**
   * Provide links or screenshots showing:
     + The original repository and its updates from Account A.
     + The fork, branch, pull request, and its approval from Account B.

**Evaluation (5 marks):**

* 3 marks: Clear and concise reflection on the entire process.
* 2 marks: Proper verification with links and/or screenshots demonstrating all tasks.

**Suggested Timeline (2 Hours)**

* **Task A & B (30 minutes):**
  + Create the repository using Account A, set up the local repository, commit, and push.
* **Task C (20 minutes):**
  + Clone and modify the repository using Account A.
* **Task D (50 minutes):**
  + Switch to Account B to fork, branch, modify, create a pull request, and then log back into Account A to review and approve it.
* **Task E (20 minutes):**
  + Write reflection, gather verification details, and submit all required links/screenshots.

**Final Notes**

1. **Preparation:**
   * Each student must create two GitHub accounts and ensure they can switch between them.
   * Ensure Git is installed on your local machine and you are comfortable with basic Git commands.
2. **Submission:**
   * Submit the GitHub links for the original repository (Account A), the fork, branch, pull request, and its approval (Account B).
   * Attach the reflection document (or update the repository README) detailing the process and any challenges faced.
3. **Grading Rubric:**
   * Each task is evaluated based on the marks distribution mentioned above. Clarity, correctness, and documentation of each step are essential.