0.1 Planning

Before diving into programming, it's advisable to initiate the planning phase for the program sequence. This involved creating flowcharts for each stage of the development process.

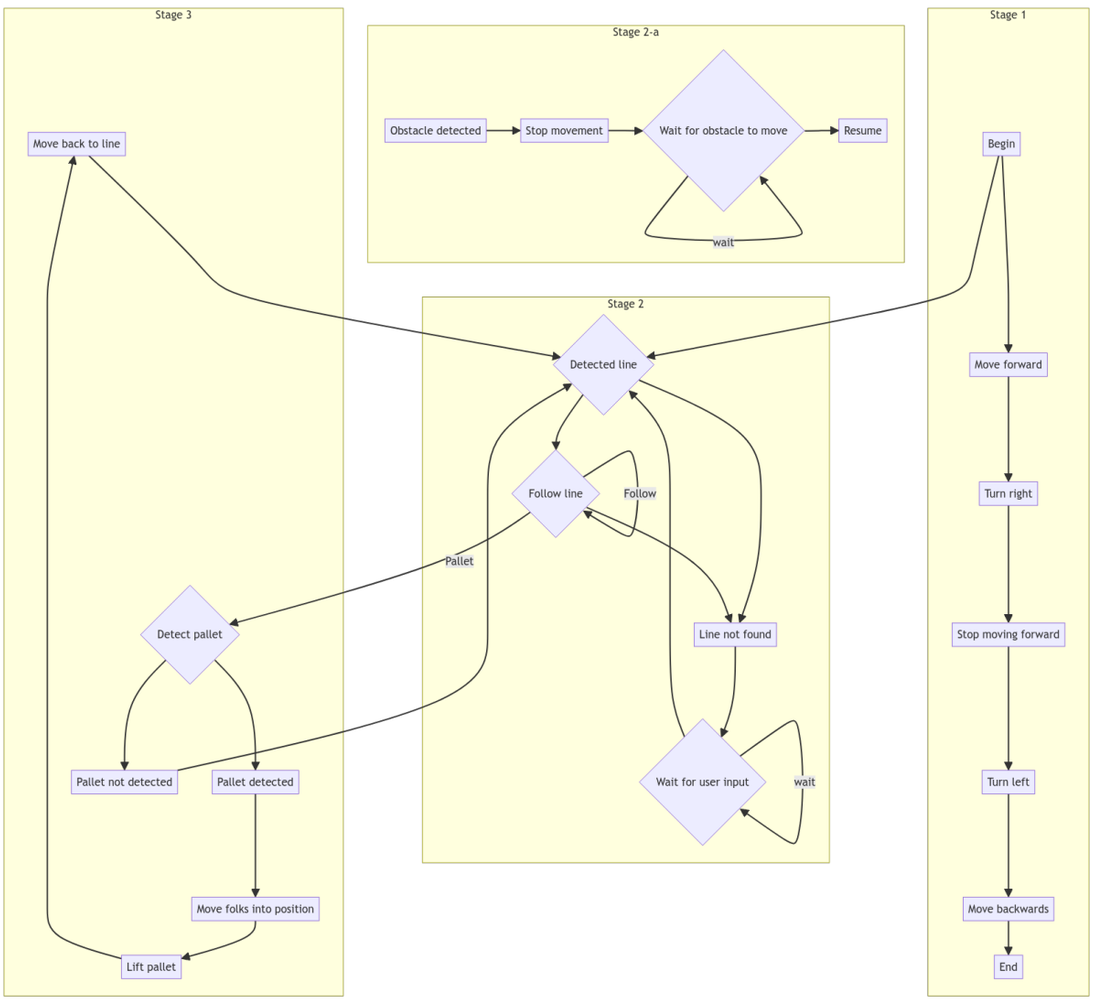

Figure 1: Three-Stage Flowchart

The flowchart assists the software developer in implementing the code that will execute the planned sequence. It is also essential for planning out test cases to ensure thorough testing of all software functionalities. Overall, the flowchart saves time in the long run by preventing the software developer from hesitating and waiting to determine how the implementation should be done.

0.1.1 Version control

Effective planning of the Git branch structure is crucial for software development projects. When employing Git as a collaboration tool, it is imperative to ensure that the team adheres to specific guidelines:

- **Protected Master Branch:** Only merge requests are permitted on the master branch.
- **Developer Branch Commits:** Commits should be made on the developer branch.
- **Independent Feature Development:** Create a new branch for independent features, branching from the developer branch.
- **Meaningful Commit Messages:** Commit messages should be both meaningful and concise.
- **Peer Review for Merge Requests:** All merge requests must undergo review by another team member.

These guidelines significantly contribute to the smooth running of the development process. Primarily, they prevent the occurrence of large and time-consuming merge requests. When followed correctly, these guidelines result in a branch structure resembling the illustration in Figure 2.

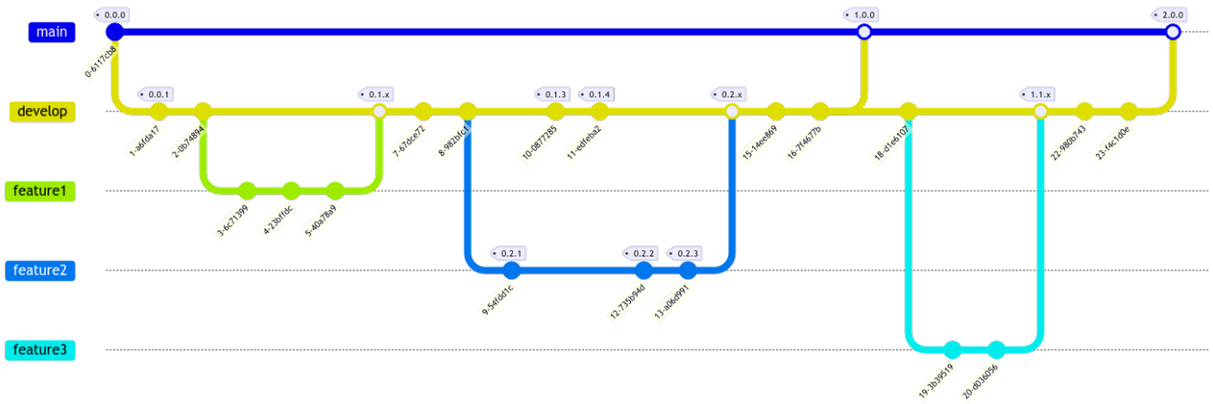

Figure 2: Git branch structure