# SE2030    Lab7: Branching your own adventure    Spring 2020

Overview: In this lab you will be creating a dev branch and making measurable progress on the implementation of the project.  You will have some choices to decide what to implement.

Learning Outcomes:

- Dev branch creation
- Pull Request execution
- Implementation

Instructions:

You should create a dev branch for your project and ALL untested work should be pushed to and pulled from the dev branch ONLY.   You should do a "test" pull request during the lab with a simple merge to make sure the entire team sees how the pull request mechanism works (lab checkoff).

Significant implementation progress is also expected this week.  You are expected to fix any bugs found in the application so far.  As a team, decide which one of the following options you choose to implement:

- Option 1: Implement features 2 and 8.
- Option 2: Implement features 5 and 8.
- Option 3: Implement a feature to check the semantic correctness of the GTFS files.  To do this, your code should test to make sure that each ID used in the application is unique within its set. It should also test to make sure that every ID referenced in every file is found in another file.  For example, a StopID used in stop_times must be present in the stops data structure.  Each trip (in stop_times) should validate that the time listed for a given stop is after the time listed for a previous stop and before a time listed for the next stop.

You should implement the Observer pattern components for all data visualization objects.  Your application must allow a user to load files multiple times in the same session to be able to see the observer pattern working.  The observer pattern should also work for any features implemented (when the user clicks search for example).

Once your features are complete and tested on the dev branch, you should check them back into the master (trunk) branch using a pull request prior to the due date.  All members of the team should approve pull requests to the main branch.

If you are comfortable using feature branches, you are welcome to use them, but they are not required. If you use feature branches, you are responsible for handling pull requests and merges appropriately therein.  As a team, you may decide how many members of the team should approve pull requests to the dev branch (0,1,2,all) if you choose this option.

Deliverables: You should indicate which features you implemented in a text file checked in to <project root>/README.md. See the main assignment page for a template for this file.  The code checked into your repository in the master branch will be pulled by the instructor to be tested.  It is expected that every team member makes measurable contributions, and author names must be in the comments as well as the commit messages.

Lab Checkoff: Demonstration of a simple pull request amongst the whole team.

Due Date: Start of class, Tuesday of Week 8 (5 May 2020)

Grading:

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| Dev branch creation, usage | 20% |
| Pull Request execution | 10% |
| Lab checkoff | 10% |
| Feature progress | 50% |
| Following submission instructions | 10% |
| **TOTAL** | **100%** |