

# Milestone 2B: progress report

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## Ongoing/Assigned tasks

- Aashna Shah: Implementation of forward mode
- David Paquette: Implementation of forward mode
- Katherine Keller: Test suite (elementary functions/differentiation modules) / yaml file / code coverage / Newton method for tutorial
- Rachel Petherbridge: Test suite (dual numbers/differentiation modules) / toml file / code coverage / Newton method for tutorial

We decided to divide the workload so that members can work in teams. Aashna and David are responsible for implementation of forward mode. Specifically, they will work together on the dual numbers, elementary functions, and differentiation modules. One person will be responsible for implementation and the other will be responsible for documenting all the code using docstrings and comments. Katherine and Rachel will work on the test suite and code coverage, to ensure that >90% of code is tested. Additionally, they will ensure that minimum package requirements are met (i.e configuring setup.py files and init.py files). All members will check code, write the Doc Strings for functions they implemented, and will work together to confirm that the current package can implement forward AD for Newton's method. All members will contribute to the write-up.

## Completed Tasks

- Aashna Shah:
  - Contributed to implementation and structural organization of package
  - Implemented ~80% of functions in the differentiation.py, dualNumbers.py, and elemOperations.py modules
- David Paquette:
  - Licensing of package
  - Wrote docstrings and comments for differentiation.py, dualNumbers.py, and elemOperations.py modules
  - Will fix implementation of **pow** and **log** elementary functions
- Katherine Keller:
  - Wrote background and implementation

- Implemented elementary functions test suite, yaml file configuration, and partial contribution towards differentiation test suite & coverage.yml
- Rachel Petherbridge:
  - Wrote introduction, formatted document for submission and tasked with turning in milestone updates via git commits
  - Completed .toml file
  - Began planning for setup.py and virtual environment testing
- All: everyone equally contributed to producing the milestone markdown documents

Since Milestone 1, we have met as a group to discuss implementing the milestone into a package form. Individually, we have re-watched lectures, gone to office hours, and used online resources to improve our understanding of forward AD.

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