Check-in

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1 Updates on previous goals

- Continue on rewriting based on using struct to store data.

- Get Alex started.

- Provide instructions/helps for Marissa

2 Progress up to now

2.1 Rewriting

Up to now, the rewriting process is progressing smoothly. In short, the new structure is:

- `FundamentalData` holds

  - Matrices and vectors;
  - Cross section data;
  - Mesh;
  - deal.II data structure that'll be used for assembly.

- `EquationBase` is remade close to a pure operator on the data structures held by `FundamentalData`.

- Hierarchically, every level of iteration class has a member variable of iteration class that is one-level lower than current class, e.g. `EigenBase` has a member variable of `MGBase` instance and `MGBase` has a member variable of `IGBase` instance.

In the end, it leads to the fact that

- All data structure which needs to be initialized in `BARTDriver` but lives inside `EquationBase` are now inside `FundamentalData` (struct). EquationBase is cleaned to be a pure operator.

- Iteration classes are made to be operators as well. They operate on EquationBase instance.

2.2   Alex's progress

Alex just started with adding a resolution to a conflict between gmock and deal.II, which never existed until deal.II 9.0.

2.3   Marissa

Finished meeting with Marissa for her unclearness about power iterations. We are setting up meetings off-campus in Hayward starbucks for extra meetings.

3   Things you need from Rachel

4   Goals/Things will be going on

- Finish the `BARTDriver` as a closure to the rewriting (coding part)
- Add unit tests
  - Iterations can be easily tested by gtest
  - ctest can be used for EquationBase as MPI will be needed.