

Design Explanation

Dependencies package:

- a. CLI: The main class of the program. Contains the entry point of the method.
Also handles selection of which query to run
- b. FileScan: The class that handles all the file IO. Scans in the input text file and turns it into a format that the program can manipulate easily

Queries package:

- a. Aggregates: The class that handles the Aggregates query.
The Aggregates query lists all the modules whose declarations have been seen, together with the number of other modules (including those whose declarations have not been seen) that are used as types of fields in the module (not including the module itself).
- b. DepCount: The class that handles the DepCount query.
The DepCount query lists all the modules whose declarations have been seen together with how many dependencies they have, in decreasing order of number of dependencies.
- c. FanIn: The class that handles the FanIn query.
The FanIn query lists all the modules whose declarations have been seen together with the number of other modules whose declarations have been seen dependent on each module, not including the module itself.
- d. FanOut: The class that handles the FanOut query.
The FanOut query lists all the modules whose declarations have been seen together with the number of other modules (including those whose declarations have not been seen) each module depends on, not including the module itself.
- e. Module: The class that creates Module objects after a query has been executed.
The "Module" that is created is the same as the query that was executed.
- f. Query: An abstract class that contains code common to all queries
- g. Static: The class that handles the Static query
The Static query lists all the modules whose declarations have been seen together with the number of other modules (including those whose declarations have not been seen) that the module uses static members (methods or fields) not including the module itself.

- a. Summary: The class that handles the Summary query.
The summary query produces a summary of the data consisting of:
- how many dependencies in the dataset (label DEPS)
 - how many modules whose declarations have been seen have dependencies (label SRCWITHDEPS)
 - how many source modules whose declarations have been seen do *not* have dependencies (label SRCNODEPS)
 - how many target modules, including those whose declarations have **not** been seen, do *not* have dependencies (label TGTNOTSRC)
- a. Uses: The class that handles the Uses query.
The Uses query lists all the modules whose declarations have been seen together with the number of other modules that are used by it, not including the module itself.
"Used by" means either invokes a method or accesses a field belonging to the module.