Structure

Brief Summary

The program is made of a few fundamental elements.

Mode detection

Detects and set the working mode (interactive or batch).

- Interactive - **Reads input from** `stdin` **and prints to** `stdout` **printing a prompt before the user can enter new input.**
- Batch - **Command line arguments will specify the name of the input file and the name for the output file.**

Batch Mode

In batch mode, **we basically give the function that executes the command (executeCommand) the ostream we want to print to, meaning that if argc is 1 then we print to cout, and if argc is 3 we print to the file**

The main loop

aka `main(argc, argv)` **and** `executeCommand (string, ostream)`.

Each iteration prints a prompt (on [interactive](#)) + reads a line from `stdin` **or the given input file.**

Then, it applies the rest of the elements on it.

Classes

`gcalc` (Class)

This class has the main loop where I get the input from the user and process it and act accordingly.

Syntax is validated in this stage. In case I get a valid input, I recognize and define each element based on a certain criteria. In the procedure I do some helpful functionalities like trimming spaces, splitting edges/vertices, finding certain operators, etc.

`ClassGraph` (Class)

This class defines a graph.

A graph consists of vertices and edges set.

`Edge` (Class)

This class defines an edge.

An edge consists of two vertices (source vertex and destination vertex).

`Vertex` (Class)

This class defines a vertex.

A vertex is defined by its name.

Here is a diagram of the main classes: