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Data Structures

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Project 2 Write-Up

**Analysis**

The stack data structure is very useful for things that need to be done in order; the infix-postfix is a good example. Others are things that “keep track” of what we do. By pushing action events onto a stack, we have information about the order of actions we took. This could be applied to something like a maze, where we can just pop our actions taken until the point we want to start again from.

I don’t think there’s a different way to implement the LIFO structure. We felt that stacks are the most basic form of LIFO possible, and it’s just the usage of stacks that could vary.

**Summary**

1. We divided up the assignment pretty similarly to the last project. Eddie took the entire postfix/infix conversion and input, while Johnnie and Matt divided up the inputs. Johnnie took the brunt of the front end development, while Matt was in charge of backend development, linking the inputs to construct the string that would be used for the infix/postfix conversion and calculation, along with relaying that back to the GUI to display the answer. We ensured that everyone had an idea and knew how everything worked by having everyone come up with an idea for the entire project. From then, we discussed how each portion of the program would work (front/backend, linking inputs to calculations, etc). Coordination was done through github, and testing was done as development went on. Observations were mostly gained from the discussion phase, where we were exposed to other methods of solving the same problem. This allowed us to improve our own propositions and ways of thinking, which will definitely benefit us in the future.
2. We didn’t run into much trouble, to be honest. Discussion mainly happened in the discussion phase, and the entire project was planned out there. We did not make any adjustments to our plan, and the final project came out to be what we imagined initially. However, we did notice a bug in the final testing phase, where typing ‘/’ with the keyboard would not properly register on the calculator. This turned out to be a simple fix, as the keyPressed event was detecting ‘\’ for division instead of ‘/’.
3. Our biggest takeaway was the ability to plan a project as a group, brainstorming and coming up with a final plan to follow. Also, it served as a refreshment on GUI coding, as it has been a while since GUI’s were needed in our projects.
4. This assignment could be improved by adding more bonus objectives. The base assignment dealt with all the objectives of the project, and bonus objectives could challenge us to do more with what we have.