Unit 4 Status Report

Date: April 28, 2022
To: Mr. Fulk
From: Anish Lakkapragada, Hank Hsu, Abhishek Nambiar

Subject: Week 4

Accomplishments:

Anish has polished up the GUI. He has added a welcome screen where the users can select how many orders of derivatives they want to play with using a slider and has also added a back button to return back from the game to the welcome screen. Anish has also been working on a separate version of the project where we implement networking using Socket Programming. One computer is able to send functions (in String form) on a GUI for another computer (with the specified IP address given) to play with on the tile games. Basically, the functions are given not by the hardcoded text file but by the other connected computer. Anish has also polished the UI to render exponents by formatting the functions in String form with HTML.

Hank has been working on the function that differentiates functions in String form. He was able to recognize a crucial error that was not leading to proper differentiation of constants, and together we fixed that. Hank also got started on a help screen with instructions.

Abhishek has been working with Anish on prettifying the application and playing the game to look for errors. Abhishek and Hank have also created the entire promotional presentation while Anish has tried to implement networking.

Problems/Risks:

Currently, our application is stable and we are happy with how it is (without networking.) Anish has written the networking on a separate branch in our

GitHub repository, so we can easily revert back to the non-networking, functional, application if required.

We are worried that we may not have enough time to fully implement networking. Currently one of the problems Anish has realized with networking is the necessity of running two threads, one for updating the Swing GUI and one for listening for incoming requests from the other computer. Otherwise, the GUI update events will be delayed and it will be stuck. Anish is currently exploring thread programming and plans to work on the threading this weekend.

One of the problems Anish faced with the networking was that the same thread listening for requests from the other computer was the same thread updating the GUI. This slowed down the updates to the GUI, often stopping it. Anish implemented another thread to deal with listening aside from the main thread. One thing Anish right now has to test is whether the machine can work on two different computers, instead of right now where we use localhost to simulate the client and server relationship.

Next Steps:

Hank and Abhishek will continue to make the promotional presentation, and the help screen while Anish tries to see if we can implement networking. If by Tuesday implementing networking seems unattainable, we will quickly revert back to the single-player version. After the promotional presentation is done, we plan to rehearse it together and also work on the refined project specification (we have added 4 more classes than expected.) We are all pretty excited to submit our project.