

Learning Log - 2AA4

Joshua Guinness, guinnesj, 400134735

January - April 2019

The way this document is structured is that each section refers to a given week within the associated dates. At the start of each section will be an overview of what I learned that week through lecture. The associated subsections will talk more in depth about specific work on assignments or studying for midterm/exam that I did on a certain days. These specific subsections will also talk about struggles I had, problems I solved, and milestones I reached.

1 Week 1, Jan 7 - 13

This week in class I really enjoyed learning more in depth about the software engineering profession. Specifically our call and duty as software engineers to society and the skills that we need to have and develop to be successful.

1.1 Friday, January 11

- Attended tutorial and learned basic git commands and how to use doxygen
- Downloaded git

1.2 Sunday, January 13

- Looked through the repo and the resources contained within
- Started a 40 min python video where it goes through the entire language
- Read through Assignment 1

2 Week 2, Jan 14 - 20

This week I enjoyed learning about the principles behind software engineering. Its incredibly exciting to learn these things because this is what a large part of the degree is about, designing quality software and these principles form the basis of how we measure quality.

2.1 Monday, January 14

- Started to go over doxygen and tried to generate a pdf of the Box3D example
- Installed doxygen

2.2 Tuesday, January 15

- Continued going through the doxygen tutorial
- Ran into an issue where pulling from the remote repo ended up with a blank Box3D python file on my local machine
- Restarted my command line and it started to work again
- Tried to generate the PDF, but the makefile did not work, realized it was because I did not have the correct version of doxygen installed so I installed the correct version
- Coded the first 3 functions of Step 1 of the assignment
- Took a while to get back into the habit of coding in python but the first three functions of step 1, are tested and commented

2.3 Wednesday, January 16

- Continued working on assignment 1
- Finished the first three functions of step 2 and halfway done the last function of step 2
- Just need to allocate the rest of people who do not have free choice
- Grew in my understanding of python, especially about dictionaries and lists
- Ran into problems with trying to figure out how to do certain things, but after doing some searching and trying/testing I figured it out

2.4 Friday, January 18

- Finished the read allocation data in the morning and did some testing
- Finished programming the allocate function
- Test cases pass and functions are good
- Added doxygen commenting to functions
- Ran into an issue right before I was going to submit where make test did not work

3 Week 3, Jan 21 - 27

During class this week we started to learn about modules and MIS and how that will play a role in future specifications. I found it pretty confusing and difficult to understand all the terminology and follow along. Will definitely need to look at it on my own time. However, I can clearly see that this is important and once a specification like this is done, coding becomes much easier.

3.1 Thursday, January 24

- Fixed the problem of make test not working by putting the folder with all my test files in the A1 directory
- Started writing my report

3.2 Friday, January 25

- Finished writing the reflection on my report
- Really enjoyed writing the report and being able to reflect on what I worked on and how it could have been improved

4 Week 4, Jan 28 - Feb 3

This week the in class learning that really stuck with me was going over ADT's. From first year, last semester, and high school experience I had a rough idea of what ADT's are, but didn't really understand them that in depth. I also learned what the difference between an ADT and an abstract object. This content is really applicable to future life and career so it is something I definitely enjoy learning about!

5 Week 5, Feb 4 - 10

This week in lecture we went over Generic MIS and functional programming. Functional programming is something I am definitely curious to learn more about and would like to explore in the future through languages that cater to that specifically like Haskell or Scheme.

5.1 Sunday, February 10

- Caught up in lectures, learning about MIS
- Programmed the first module of assignment 2

6 Week 6, Feb 11 - 17

This week I enjoyed learning about object oriented design in lecture and how I can apply it to my future career.

6.1 Monday, February 11

- Finished the programming of Assignment 2, learning all about reading formal specifications, lambda functions and writing object oriented code in python
- Learned how pytest works although didn't get that much of an opportunity to implement it
- This assignment was left until last minute so for future assignments care will be taken to not do that

7 Week 7, Feb 18 - 24

This was reading week. Did not work on 2AA4 this week. I enjoyed my break spending time with friends and family, as well as doing some other assignments.

8 Week 8, Feb 25 - Mar 3

In lecture what I found interesting was learning about module decomposition and how to take a general idea and break it up into smaller peices. This is a critical skill for engineers, especially software engineers.

8.1 Monday, February 25

- Added 15 test cases for Assignment 2 part 1
- Used the test cases to test my code and partners code
- Finished writing the report

8.2 Friday, March 1

- Began working on specification for Assignment 3
- Looking back on the Assignment 2 specification helps a lot in being able to fill in the blanks for this current assignment
- One of the hardest things about filling in the blanks is actually understanding what the program is supposed to be doing

9 Week 9, Mar 4 - 10

What I learned about in lecture this week is module guide as well as the maze tracing robot example. I especially enjoyed the example as was fun to do something else besides straight content, yet also learn about the principles being applied.

9.1 Monday, March 4

- Continued working on filling in A3 spec, about 2/3 of the way done at this point
- Running into issues trying to understand what the program is doing as a whole so most of work is just reading and thinking

9.2 Tuesday, March 5

- Started studying for midterm tomorrow
- Studying so far is just going over and reading lecture content, especially over content that is tricky and missed the first time around. Went through all the slides over again
- Also finished up the A3 spec. There were a couple of parts that weren't completely right but most of it was good

9.3 Tuesday, March 6

- More studying for midterm today
- Went over some key slides again
- Did the two practise midterms to build confidence. Did pretty well on both of them 70-90 percent so I am feeling good for the midterm tonight
- Wrote the midterm

10 Week 10, Mar 11 - 17

Lectures this week consisted of an intro to specification. This is really important to learn in my future career as a software engineer and something I am looking forward to gaining more experience in down the road.

11 Week 11, Mar 18 - 24

This week I enjoyed learning about english to math and how to convert english expressions and sentences to math. I plan on using this for the A4 specification for sure.

11.1 Monday, March 18

- Reviewed proper spec and compared it with the one I made. There were a couple of errors but but my spec was pretty close to the main idea of how it should work
- Reviewed the tutorial slides on how to use C++
- Programmed CardTypes module
- Made the header files
- Struggled with understanding the generic module and how it is supposed to work. Took a while but I think I understand it a lot better now

11.2 Tuesday, March 19

- Looked back at previous assignments to see how stuff should be formatted and done. Realized that aspects of my header files were wrong so changed that
- Finished the header file for gameboard
- Programmed and did some brief unit testing for Stack.cpp
- Fixed some smaller errors I made in improperly using generic types

11.3 Wednesday, March 20

- Started work on Gameboard.cpp, added a default constructor because I did not understand initializer list
- Fixed gameboard.h again because keep realizing I am not doing things properly like having functions I don't need, or types wrong
- Made pretty significant progress on Gameboard.cpp

11.4 Thursday, March 21

- Finished tab mv and valid waste mv and a few other functions
- Completed most of the local functions and working on the public functions now
- Starting to get a lot more confident with C++ and am beginning to enjoy it

11.5 Saturday, March 23

- Worked on two decks function. This is definitely one of the hardest functions and took a while. Still not complete

11.6 Sunday, March 24

- Continued working on Gameboard.cpp and edited some function signatures in the associated header file

12 Week 12, Mar 25 - 31

In the lectures that took place I found I learned a lot from the verification lectures and took away lots of important content about that area. I am interested in learning more about it and having more classes in future years that deal with it.

12.1 Tuesday, March 26

- Fixed smaller issues that popped up when running the example module
- Added Doxygen comments for everything
- Added comments in code to that TA's could understand it
- Created test cases for Stack and Gameboard. Stack test cases are done well, Gameboard test cases were not done that well because I ran out of time

13 Week 13, Apr 1 - 7

I enjoyed learning about whitebox and blackbox testing this week and am looking forward to applying that knowledge on my co-op job in the summer. I am also interested in the testing course we take in third year and learning more about testing such as prime path.

14 Week 14, Apr 8 - 14

The final lecture which was a review I found helpful in cementing certain concepts and identifying gaps in my knowledge of areas I need to focus in for the final exam

14.1 Friday, April 12

- Started working on Assignment 4 spec
- Finished the rough spec for Cell, one of the modules
- Wrote down a brief outline of what everything should look like
- Started on the latex version of the spec

14.2 Saturday, April 13

- Continued working on latex version of spec. Skeleton for modules is done and have stated to add in content
- Finished coding and testing Cell ADT
- Finished the rest of the spec as well as critique of my design
- Ran into issues when creating my own makefile for the assignment. It couldn't seem to find everything to compile properly. Instead I just used the makefile from assignment 3 and it worked
- Doxygen for the files and did the header file for gameboard. Ran out of time to finish the rest of the assignment unfortunately.

15 Week 15, Apr 15 - 21

No lectures this week! Just exam prep!

15.1 Monday, April 15

- Started studying for exam by going over all the lectures past the midterm.
- Testing was pretty heavy and complicated to go through, need to go through again.
- Did Chris's questions on avenue and got most of them correct

15.2 Tuesday, April 16

- Went over all lectures that are before midterm as review, especially focused on MIS and Uses stuff
- Re went over lectures after midterm
- Did some practise questions as I went along
- Feel pretty prepared for midterm, which I had some more time to practise the content however.