Learning Log

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The purpose of the learning log is to reflect upon your progress in learning the content of SE 2AA4/ CS 2ME3. This is a personal journal. The intention is for you to be aware of your progress by means of recording and reflecting. A template is provided for each week. You should fill in the question marks. You are also free to add your own subsections.

1 Week 1 Intro to Course

Dates

Jan 6 to Jan 10

Lecture 1 Introduction to Course

Discuss Course administrative details, marking scheme, material and content to be taught

Lecture 2 Software Engineering Profession

Discussed the differences between studying Computer Science and Software Engineering, History of Software Engineering and some important figures such as Parnas

Tutorial 1 Git, Doxygen and A1

Learnt how to install Doxygen, Tex, Git and set up necessary tools and development environment to complete assignments

Textbook Reading (Ghezzi, H&S or other)

I did not read the book this week

Assignment Progress

Finished the coding and testing portions

Midterm/Final Review Progress

Have not started

Reflection Relating Course Topics, Other Courses, Other Experiences

The discussion board is quite helpful. I find that this course really helps you understand deeply what "Software Engineering" really is. It focuses on the practical aspects of the profession rather than just programming.

2 Week 2 Software Qualities, Software Engineering Principles

Dates

Jan 13 to Jan 17

Lecture 3 Software Qualities

Discussed Software qualities such as correctness, robustness, reliability, portability, maintainibility, etc.. Comparing and contrasting different terminology

Lecture 4 Software Engineering principles

Discussed key SE principles including abstraction, information hiding, designing for change, seperation of concerns and more

Tutorial 2 Basics of Latex and PEP8 convention for Python

Learnt the basics of latex, syntax, different editors etc. Disucssed the PEP8 standards

Textbook Reading (Ghezzi, H&S or other)

Have not started :-(

Assignment Progress

Nearly complete. missing a few tests for pos adt

Midterm/Final Review Progress

Have not started reviewing

Reflection Relating Course Topics, Other Courses, Other Experiences

It is nice to see many different software engineering principles, methods and practices being defined in detail and how to apply them

3 Week 3 Introduction to modules and Mathematics for MIS

Dates

Jan 20 to Jan 24

Lecture 5 Introduction to Modules

Important goals to keep in mind when developing software such as Design for change and Product families. Discussed The module interface, module implementation

Information Hiding: Basis for design Implementation secrets are hidden from clients Encapsulate changeable design decisions as implementation secrets within module implementations Encapsulate changeable design decisions as implementation secrets with module implementations

The WRONG ANS: HAS NOTHING TO DO WITH Security and HIDING DATA, VARIABLES

Important for midterm! internalize it

Discussed examples of modules such as record, library, abstract data type, generic modules Note: follow precise terminology from Ghezzi textbook

Difference between a library and module Library: Has no state information or record of any stored data. E.g a Math library that has functions that take inputs and gives outputs Module: Has state information and some record of data (a ADT module?)

When implementing a specification must match it, not look like it

Lecture 6 Mathematics for MIS

Worked through an example of balancing chemical equations to demonstrate how we can take a problem, describe it in mathematical terms and syntax and from there translate to an actual program/code

Tutorial 3 Math Review

Reviewed mathematical operators, unary and binary operators ad their precedences

Discussed what a set is: 1) Distinct elements (i.e no elements are repeated) 2) All elements are of the same type

Operations on sets: Union: essentially combine two sets Intersection: elements in both sets Set Difference: Take first set and remove any elements that are common with other set e.g if we have S= 1,2 and T = 2,3,4 then we have S - T = 1 . 3 and 4 not included cuz not in both sets

Subset

Cartesian product: all possible pairs

A set can be described in two ways: set enumeration: List out all elements in a set

Set comprehension: S = x : t — R : E This means S is a set where its elements are of type t and satisfy a property R and E is some defining expression for a set element e.g S = x : N — 1 ¡= x ¡ 5 : x^2 then S = 1,4,9,16

Types: A set of values e.g a value of type integer belongs to the set S = ...-1,-2,0,1,2....

We can have custom types: Such as a PointT type which can be a tuple(x : R, y : R)

Quantifiers (Shorthand for applying the same operator many times)

(*x : X — R : P) x is an element of type X R is a range (usually a boolean condition indicating which elements to include/consider) P - the values to apply the operator "*" to. * may be +,-, / etc. e.g +x : N — 1¡= x ¡ 5 : x^2 means to sum up the square of the terms from 1 to 5 (including 1 but not 5)

Quantifiers for conjunction and disjunction for logical and, we use the universal quantifier forall, since "and"

for logical or, we use existential quantifier, exists since "or"

Textbook Reading (Ghezzi, H&S or other)

?

Assignment Progress

Complete

Midterm/Final Review Progress

Reviewing principles

Reflection Relating Course Topics, Other Courses, Other Experiences

Discussing modular design and information hiding tied in with what is currently being taught in our 2XB3 course, modular design and object oriented programming with Java. The overlapping material helps build a deeper understanding!

The Math review helps tie in with other courses such as Discrete Mathematics (2FA3)

4 Week 4 ?

Dates

Jan 27 to Jan 31

Lecture 7 ?

?

Lecture 8 ?

?

Tutorial 4 ?

?

Textbook Reading (Ghezzi, H&S or other)

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Assignment Progress

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Midterm/Final Review Progress

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Reflection Relating Course Topics, Other Courses, Other Experiences

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5 Week 5 ?

Dates

Feb 3 to Feb 7

Lecture 9 ?

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Lecture 10 ?

?

Tutorial 5 ?

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Textbook Reading (Ghezzi, H&S or other)

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Assignment Progress

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Midterm/Final Review Progress

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Reflection Relating Course Topics, Other Courses, Other Experiences

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6 Week 6 ?

Dates

Feb 10 to Feb 14

Lecture 11 ?

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Lecture 12 ?

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Tutorial 6 ?

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Textbook Reading (Ghezzi, H&S or other)

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Assignment Progress

?

Midterm/Final Review Progress

?

Reflection Relating Course Topics, Other Courses, Other Experiences

?

7 Midterm Break

Dates

Feb 17 to Feb 21

8 Week 7 ?

Dates

Feb 24 to Feb 28

Lecture 13 ?

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Lecture 14 ?

?

Tutorial 7 ?

?

Textbook Reading (Ghezzi, H&S or other)

?

Assignment Progress

?

Midterm/Final Review Progress

?

Reflection Relating Course Topics, Other Courses, Other Experiences

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9 Week 8 Midterm Exam Week

Dates

Mar 2 to Mar 6

Lecture 15 ?

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Lecture 16 ?

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Tutorial 8 ?

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Textbook Reading (Ghezzi, H&S or other)

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Assignment Progress

?

Midterm/Final Review Progress

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Reflection Relating Course Topics, Other Courses, Other Experiences

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10 Week 9 ?

Dates

Mar 9 to Mar 13

Lecture 17 ?

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Lecture 18 ?

?

Tutorial 9 ?

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Textbook Reading (Ghezzi, H&S or other)

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Assignment Progress

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Midterm/Final Review Progress

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Reflection Relating Course Topics, Other Courses, Other Experiences

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11 Week 10 ?

Dates

Mar 16 to Mar 20

Lecture 19 ?

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Lecture 20 ?

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Tutorial 10 ?

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Textbook Reading (Ghezzi, H&S or other)

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Assignment Progress

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Midterm/Final Review Progress

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Reflection Relating Course Topics, Other Courses, Other Experiences

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12 Week 11 ?

Dates

Mar 23 to Mar 27

Lecture 21 ?

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Lecture 22 ?

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Tutorial 11 ?

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Textbook Reading (Ghezzi, H&S or other)

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Assignment Progress

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Midterm/Final Review Progress

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Reflection Relating Course Topics, Other Courses, Other Experiences

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13 Week 12 ?

Dates

Mar 30 to Apr 3

Lecture 23 ?

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Lecture 24 ?

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Tutorial 12 ?

NA

Textbook Reading (Ghezzi, H&S or other)

?

Assignment Progress

?

Midterm/Final Review Progress

?

Reflection Relating Course Topics, Other Courses, Other Experiences

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14 Week 13 ?

Dates

Apr 6 to Apr 7

Lecture 25 ?

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Tutorial 13 ?

NA

Textbook Reading (Ghezzi, H&S or other)

?

Assignment Progress

?

Midterm/Final Review Progress

?

Reflection Relating Course Topics, Other Courses, Other Experiences

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