Lessons Learned, but Actually a Course Reflection

Overall CSC 372 is exactly the class I expected, a slightly more advanced java course that teaches the more utilized but advanced features in the java programming language. It additionally did a good job of separating concepts from being purely features of the java programming language so they could lead into applying them in other programming languages a bit easier. As I am already experienced with Java quite a lot a lessons learned paper would be very short, instead I wrote a sort of review and summary based on what I think the course did well and how I think I would have learned from it if I did not already know the concepts well.

Starting with the individual topics covered is inheritance and polymorphism, which is key to object oriented programming and any significantly complex java programs. One thing I was surprised by during this module was recommending that we read the Oracle java tutorials, as Oracle tutorials leave a lot to be desired but are reliable in being accurate, given the source of the information. Next was starting with the GUI section of the class and given that Java GUI is rather complex it feels reasonable that module 2 and 3 are covering it. Module 2 follows module 1 with recommending reading of the oracle java tutorials but here is where I agree with the decision. It’s hard to put into words exactly what makes the oracle tutorials better for the swing package but they are very helpful and convenient resources when designing a GUI with Java so I think it is a good thing that these are loosely recommended reading. In particular the list of all the different components is very useful for knowing options, instead of trying to manipulate a simple component to do complex things use a complex component. A good personal example of that is one time I wanted to make a password field and wanted the field to fill with asterisks as you type but replacing all the characters as the user typed with asterisks is super inconvenient, then at some point I went to this documentation and noticed the “How to use password fields” tutorial and it made everything a lot simpler (Oracle 2020). Module 3 is very similar as it covers JavaFX but a particular line of “The best way to navigate through the rich details of JavaFX is to study examples and run those examples in your Eclipse environment.” is very true. With most GUI elements knowing what they will look like as you write the code feels impossible, it's very much a matter of trial and error. The next module is covering object oriented design in general as well as abstract classes and interfaces. It’s a bit weird the class didn’t start with object oriented design as it is an important concept, not just to java, but the order of things learned does not matter that much on a longer scale. One outside source for this is an article from java tutorial which helpfully lays out the 4 major principles of object oriented design, that being encapsulation, inheritance, abstractions, and polymorphism (Java Tutorial Network 2017). This also provides a possible answer to why object oriented programming is covered at this point in the class, as only now we have all 4 major principles covered, encapsulation was covered in first java class and part of module 1, inheritances and polymorphism were covered in module 1, and now there is abstraction in module 4 along with the concept of object oriented programming. This is a part where the class talks more generally, separating ideas from the Java language since they are applicable to many other programming languages and object oriented programming is more of a design choice than a particular use of java specific features, even if some languages don’t allow for object oriented programming as well or at all. Next is the concept of recursion, again a very general topic that is apart from java specifically. Something I would have liked is just more examples of recursion, the factorial example is good but thinking of other ways to use recursion on your own is very difficult. An alright source for different ways to use recursion would be this Geeks for Geeks article, though a better formatted source would be preferred, the point is that this shows the different ways a recursive function can be created and how that can change its behavior (Geeks for Geeks).Also to be noted in this course, an outside source in the lecture is to a toves.org article which is paywalled and either that is an oversight or the college has someway to access it and I’m just incapable of figuring out how. Next is two modules on collections and sorting methods. The sorting methods are very applicable to other languages, and the collections not so much, either way they are very important to Java and quite a lot of information so having them be 2 modules makes a lot of sense. Last is a small addition to collections of stacks and queues but there is also exception handling. I feel this is unfortunate to be module 8 as exceptions are very important to making a robust program so having no actual code to write using the concept is unfortunate. Unless you count the portfolio project requiring writing to a file which I don’t, because file IO is a whole other thing that should be covered by itself and isn’t, though it may have been covered in the first java class and I forgot.

Overall I think this is a pretty well laid out class, perhaps not the best if this is the only source of information someone has on programming but given the usefulness of google when it comes to programming I believe it’s fair to have some leniency for the details of the class. However as far as introducing and covering concepts that apply to programming as a whole I think it would do a fantastic job, though again I can’t be sure because I already knew the concepts.

Outside Sources? (For a Course Reflection?)

Geeks for Geeks. Types of Recursion <https://www.geeksforgeeks.org/types-of-recursions/#>

Java Tutorial Network (2017, October 12). What is object-oriented programming (OOP)?Links to an external site. <https://javatutorial.net/java-oop>

Oracle. (2020). The JComponent classLinks to an external site.. The Java Tutorials. <https://docs.oracle.com/javase/tutorial/uiswing/components/jcomponent.html>