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PART II: Reflection Questions:

1. **What has worked? What are you currently doing that is helping you to prepare for this course? Please detail at least two activities, over at least one paragraph.**
   I have spent a lot of time on the review sheets that the professor releases. Spending a lot of time on these review sheets allows me to apply my knowledge learned in the lectures to skills I can perform. For example, using different ADTS for different time complexities in algorithms. Another thing that has worked was taking as many notes as possible during class. On the quizzes that we have Tuesday night, the notes come in handy with answering the questions. It's a great quick reference to use inside and outside of quizzes.

2. **What needs to be addressed. What do you see as the main challenges in this course? Please detail at least two challenges, over at least one paragraph. In case you don't see any challenge, think of what may be most challenging for others.**
   I need to put more time into notes. My notes sometimes aren't sufficient enough in certain areas because I mainly write down what's on the slides in class not necessarily what the professor says. I need to find more practice problems online to do. Sometimes it is difficult to find specific problems that apply to what we are doing. What I've been doing is making stuff up and coding it for practice. For example, creating a problem like "Create an ADT that stores peoples license plate number and their cars make and model." and coding something in eclipse like that. It hasn't helped me out that much as the habits I built from practicing like this have hurt me in the quizzes as I will explain later.

3. **How you may address your challenges. For each of the challenges listed in #2, explain how you plan to address it. You may identify resources that could be helpful but that you haven't used yet.**
   I think going back after the lecture and looking at the recording for anything I missed. Along with that, I started writing down time stamps on my notes so if I go back to the recorded lecture, I know where to find certain information. I started doing that with another class I'm enrolled in right now and it's helping out a lot. For the second issue, it's very difficult to find a solution for this. The review sheets help a little bit but sometimes we don't get all the answers for the review sheets (the first review sheet we had, we only went over the first half of it) so it is really hard to know how the professor wants the answers formatted.

4. **Class design. Although this is the 4th semester in a row that the class is taught, there is always a chance to learn from your feedback and adjust for next semester or, when it is feasible, changes to the current term. Think of how the class is taught and then identify what you find most helpful and/or what could change. Note that questions 1-3 are about yourself but this question is about the class design, so it affects everyone.**
   After a couple of weeks within this class, it's difficult to understand what specific answers the questions are asking for. For example, in one of the quiz questions, I got

points marked off because the question was “to test your ADT knowledge” and my answer was not sufficient. I still used a List ADT but I was supposed to use a Map ADT. In another example, the majority of students miss understood this question on this quiz, “Using the correct Java syntax, write a method processList which takes an ArrayList as an argument. You must loop through this list and it can do whatever you want, but its big O time complexity must less than n”. Every CSE class that students have had in the past, “loop through this list” questions meant that the answer desired had to iterate through the entire list, not random increments.

I think the ability to ask questions is key in this major along with collaboration and working together. Students being able to push others forward to gain common knowledge is key to success. That being said, adding a discussion board to this class for questions could be an incredible resource for great grades in this class. Plus, it can be a moderated place for students to ask questions rather than texting in an unmoderated group chat and asking questions that might bend the rules of collaboration.

Another concept that may add to a student's success is posting the answer key for the review sheet. This will allow students to look at correctly formatted answers in one place. It would be a great resource to study for everyone. So after we go over it in class, post the answer key on the modules page. This concept could also be used with coding questions that we have on quizzes. Possible answers could be posted in a PDF for the quiz coding questions. I understand that we go over the quizzes and review sheets in class, but to have all of the answers in one place would be a nice resource rather than searching through the lecture to find answers. More time could be spent on understanding the material versus finding what you’re looking for.

IV. Various levels of analyses

O(n)
O(n)
	public static int addStuff(int[] array){
	int res = 0;
	for(int i=0; i<array.length; i++)
	for(int j = i; j < array.length; j++)
	res += 2;
	return res;
	}

1. The theta complexity for addStuff would be $\Theta(n^2)$ since that is the only term in the function and it grows the fastest.
2. The tilde time complexity for addStuff would be $0.5n^2$ since we include the coefficient in the front of the largest growing term.
3. We would choose our algorithm since we know that our algorithm is a smaller complexity. We came to this conclusion by finding the theta and seeing that we got n^2.
4. We would also choose our algorithm but to come to this conclusion, we would have to find the tilde notation of our algorithm since it included the 0.5 coefficient in front.