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201-C01-HR

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**Program Exit Assessment Reflection**

Mathematics for Computer Science – 201-C01-HR

The computer lab I have chosen for my Program Exit Assessment Reflection is Lab #5. In this lab, we were given specifications about a file system, and we had to determine whether these specifications, which can be seen as compound statements are consistent. We were told that the file system is working properly and conversely when the file system is not locked, and we were told where new messages get sent to in the file system, based on various conditions. For example, if the new messages are not queued, they will be sent to the message buffer. The first thing I did was look up what the word “consistent” means in mathematical terms because when I was doing this, I had forgotten my notes at school and I didn’t remember. After looking it up, I learned that “consistent” in this case means that there is at least one set of values that makes the conjunction of all 5 compound statements equal to true, or in other words, a conditional statement. I then created a truth table of all 16 possible set of values and checked if each compound statement (or specification) was true or false. I then determined that because there was at least one set of values that made all 5 compound statements true, that the system specifications are consistent. The first decision I made in this lab was to look up the mathematical definition of “consistent”. My other choice would have been to do it when I had my notes or to ask a friend for help. The only other key decision that I had to make was how I was going to go about solving the problem. Because we’d been doing truth tables for such a long time in our Math class, this decision was easy: I would try my best to solve the problem with a truth table. When trying to convert each specification into a compound statement, I ran into a small roadblock: how exactly would I turn each sentence into a statement that can be true or false? Although this wasn’t difficult with all 5 specifications, it was especially difficult with the second one: “If the file system is not locked, then the system is functioning normally, and conversely”. This took me a while because I originally thought that the system functioning conversely was an atom (statement that could be true or false). Having 3 atoms for this one specification seemed a bit overly-complicated, so I asked a friend how he understood the sentence, and he reminded me of that “conversely” is a word that describes the compound statement, not its own atom. I tried this and everything seemed to make much more sense. A problem solving technique I used to complete this lab was that I accounted for all the different possibilities, which we talked about in class. I used this technique so that I could see literally every possible set of values in this problem. This meant that if there was a case where all 5 compound statements were true, I would undoubtedly see it on my truth table. The only actually resources I used for this lab were Wikipedia (in Googling “consistent in math language”, a Wikipedia page appeared), my knowledge, which comes mostly from the notes given to us in class, and my friend’s knowledge. Wikipedia allowed me to understand a crucial definition needed to solve the problem, my knowledge of sets and logic enabled me to create the truth table and my friend reminded me of what “conversely” meant, another crucial definition needed to solve the problem correctly. If I were to give a future student advice on how to solve this lab, I’d tell them to make sure to solve this problem with their notes and I’d tell them to think about it in terms of what we have been learning class, which at the time was truth tables.