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Hand-in #2

If the file system is not locked, then the new messages will be queued.

~P🡪Q

If the file system is not locked, then the system is functioning normally, and conversely.

~P🡨🡪R

If the new messages are not queued, then they will be sent to the message buffer.

~Q🡪W

If the file system is not locked, then the new messages will be sent to the message buffer.

~P🡪W

New messages will not be sent to the message buffer.

~W

Explanation:

P; The file system is locked

Q: The new messages will be queued

R: The system is functioning normally

W: The new messages (they) will be sent to the buffer

**My Table is on the next page**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| P | Q | R | W | ~P | ~Q | ~W | ~P🡪Q | ~P🡨🡪R | ~Q🡪W | ~P🡪W |
| T | T | T | T | F | F | F | T | F | T | T |
| T | T | T | F | F | F | T | T | F | T | T |
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| F | F | F | T | T | T | F | F | F | T | T |
| F | F | F | F | T | T | T | F | F | F | F |

**ANSWER:**

**Since there is a row where all the specs are true, then the system specs are consistent.**

**Paragraph:**

Firstly, I want to speak about the mistakes that I caused throughout the time I spent figuring out the answer.

Firstly, a mistake I did was confusing the word “conversely” for another variable in second sentence because of the “and” in front of it. I forgot that conversely had its own meaning but I did finish by figuring it out thanks to the notes that we took in class and some personal notes that I took on my own while researching more about this topic. Personally, I was overthinking the specs which is why I spent most my time on that part of the problem, but something that I would suggest would be to highlight each part of the sentence and assign a variable and underline the connectives to not get confused or miss them if you are looking back at what you just did. Secondly, another problem for me was doing the T or F table, it hurt my eyes and at times I would get confused, and honestly the only advice I would give is to take your time while doing it and highlight with your mouse the row and column that you are doing to not mess up with another column. Finally, “The Problem solving – Logic problems”. Helped me a lot because every time I was doing a spec, I looked back at the notes and made sure its correct.

**PEA assessment:**

Throughout this semester, we have learned a numerous number of topics in Math for Computer Science, however the most intriguing one for me is the Boolean algebra chapter where we learn about sets and logic. The second hand-in taught me much, a job like a machine learning engineer. In this computer science field, Boolean algebra is used to analyze and simplify digital circuits. A digital circuit has one or more inputs and one single output, also referred to as a logic gate. Moreover, logic gates are what we use to build any digital system, but to stay broad on the Boolean algebra, it is simply the use of determining the value of the variable, truth or false. Also, we use algorithms in this subject, better called the Boolean algorithms.

To relate the work of a machine learning engineer, these engineers need to know how to prepare data sets and configure anomaly alerting logic. Alerting logic is the upgrade of the Log Review process with new machine learning algorithms, which allows Alert Logic to have a better level of security value. Furthermore, the way they use these mathematical subjects in their domain is by creating AI’s, which leads to knowing algorithms, and algorithms are linked to Boolean algebra, hence the data sets and logic. Many examples of this exist, such as: Netflix, YouTube and Amazon who all use these elements in order to work. These companies put these elements to use in order to get the user what they are seeking by having true values and false ones.

Machine Learning engineers mainly focus on researching, building and design self-running artificial intelligence. So, because of their job, we are able to clearly see how the use of this chapter that I learned in Math for Computer Science is being integrated into their daily jobs. Without Boolean algebra, most programs that we see in today’s society would not work, because it is principal to have truth statements. Another equally important information, these engineers are also the bridge between data scientists and the construction of machine learning systems, and if we do some vague research on data scientists, we will learn that they use Boolean algebra as well in their work. Proving to us even more the importance that this mathematical chapter holds.

Finally, there is much more that can be said about this topic, however, you may find further information on this topic through <https://medium.com/machine-learning-based-on-boolean-logic/machine-learning-through-logic-simplification-on-predicting-isf-2d5a88fec847> , where I found most of my knowledge and details to explain the link between Boolean algebra and machine learning engineers.

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