Description:

This week's assignment is an individual assignment with two parts.   Please be sure to submit both parts.

Part 1: Do Problem 8 on page 131 of Jorgensen's Software Testing.    You must include a decision table as part of your submission.    See the syllabus for a link to the online version of this book.

For your reference, I've included the problem here:

"The retirement pension salary of a Michigan public school teacher is a percentage of the average of their last 3 years of teaching. Normally, the number of years of teaching service is the percentage multiplier.  To encourage senior teachers to retire early, the Michigan legislature enacted the following incentive in May of 2010:

Teachers must apply for the incentive before June 11, 2010.  Teachers who are currently eligible to retire (age >= 63 years) shall have a multiplier of 1.6% on their salary up to, and including, $90,000, and 1.5% on compensation in excess of $90,000.   Teacher who meet the 80 total years of age plus years of teaching shall have a multiplier of 1.55% on their salary up to, and including, $90,000 and 1.5% on compensation in excess of $90,000.

Make a decision table to describe the retirement pension policy; be sure to consider the retirement eligibility criteria carefully.  What are the compensation multiplier for a person who is currently 64 with 20 years of teaching whose salary is $95,000?"

Be sure to include your assumptions and complete decision table plus any reductions that simplify the table to reach your final answer.

Part 2: Create a complete set of test cases for the [microwave oven state diagram](https://sit.instructure.com/courses/60679/modules/items/1587238) (follow the link for the diagram).   You may assume that the only possible combinations of states and events are included in the state diagram.  Be sure to cover all possibilities.  Include your state table and test cases in your answer. How many tests are required to fully test the solution?

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Summary:

Part 1:

A teacher who is 64 would get 1.6% multiplier on only $90,000 of their $95,000 salary since they are over 62 and under 80. They would get 1.5% multiplier on $5,000 of their salary since they make over $90,000.

Diagram, schematic

Description automatically generated

Part 2:

A picture containing text, bird, document

Description automatically generated

Test Cases:

1. While the oven is waiting, test the high power button. Expected result: Waiting
2. While the oven is waiting, test the low power button. Expected result: Waiting
3. While the oven is both done and waiting, test the set time feature. Expected result: Waiting
4. Test the start button while the microwave is waiting with time. Expected result: Cooking
5. Test the start button while the microwave is done with time. Expected result: Cooking
6. Test the start cancel while the microwave is cooking. Expected result: Waiting
7. Test the open door feature while the microwave is both cooking and one. Expected result: Waiting and Done, respectively
8. Test the close door feature while the microwave is waiting with the door open. Expected result: Waiting

Reflection:

I’m not sure if I understand how to properly create a decision table, and figuring out how to combine columns in order to simplify the table is challenging to me. Additionally, I understand the concept of the state table but I’m not sure if I filled out the inside of the table the way it is supposed to be. Also, I’m not sure how many states I was supposed to include. It was hard for me to figure out what should be states vs inputs for some of the items in the state diagram for the oven.

I pledge my honor that I have abided by the stevens honor system.