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Software Development I

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Deliverables

Analysis: Describe the problem including input and output in your own words.

In project two, it is looking for a code that can find the answer to a future investment equation. As given with the directions, this follows a certain formula: “futureInvestmentValue = investmentAmount \times (1 + monthlyInterestRate) number of years¹²”. To start, you have to include a scanner to get the input from the user for the desired numbers. For example, I asked the user to give me their investment amount first, since that is essential to our formula. Once we get all of the user input required, the scanner has to close via the `in.close();` function. Following this, I then added what was necessary for the second part of the code- or what is needed for the output. To give the user their answer, I put print statements so the chart is formatted correctly going downwards as it is the directions examples. I incorporated the method header displayed in the directions, as well as the end of the code that wraps it altogether. The final output gives the user the future investment values they were seeking when attempting to use this code.

Design: Describe the major steps for solving the problem.

When solving the problem at hand, it is important to pay close attention to the minor details. But, I think the coder must do three things overall before attempting everything in between. They must first, input a scanner for the user input. Without user input, the code would not work unless the coder assigned a specific value to the categories like number of years. Then, of course, add the formula for the problem. If you want to get an answer to give back to the user,

it is critical that you add the solution for what you are attempting to find. Finally, and in my opinion, the most vital part is to return output for the user. If the user wants the chart for years one to thirty, the code needs to be finished completely with a statement or function that will return an answer to them. This could be in the form, for instance, of `System.out.println("The answer is" + ans)`.

Testing: Describe how you test this program.

Now that the most difficult part of implementing a code is over, it is time to test it. To test the program written, one must press run either under the public class line towards the beginning, or under "run" at the top left. If it runs successfully, which is foreshadowed by the green U next to the code where the project is, then it will follow the steps in the code. So, in this code, the first thing that happens is that it asks for user input for investment amount. Once all questions are filled out, it should then calculate the answer using the formula within the code and return an answer to the user. If this does not happen, then it is clear there is an issue and the code is not correct. On the other hand, if it executes and gives a correct answer, then it is evident this program is ready for use.