Writing Assignment for LAB 3

WRITING ASSIGNMENT: Saving for Retirement

RECALL OUR PROBLEM: Steve, Carol and Lisa get their first full-time jobs and talk about saving money for their retirement. They are each 22 years old and plan on working until they are 55. Steve starts investing immediately and puts aside $150 per month. Carol wants to enjoy life a bit and decides to start contributing when she turns 30. Lisa thinks that both her friends are starting too early and decides to wait until she is 42 before starting to save. Assuming that Steve, Carol and Lisa are each earning 9% p.a. compounded monthly. Carol and Lisa want to accumulate the same amount as Steve upon their retirement. When they retire, Steve wants his investment to last 10 years, Carol wants hers to last 15 years and Lisa wants hers to last 20 years.

PROBLEM: How much will Steve, Carol and Lisa be able to withdraw monthly upon retirement? Work through the following 5 questions to help develop an answer to this problem.

A. What strategies will you use to solve this problem? Justify your strategies.
B. How much money will Steve have accumulated by the time he is 55? What assumptions are you making?
C. How much will Lisa and Carol have to deposit each month to meet their goals?
D. Whose investment plan is "the best"? Justify your answer.
E. How much will each person be able to withdraw from their retirement fund (after the age of 55 of course) each month?

F. EXTENSION: Let's assume the same investment return (9% p.a. compounded monthly) over the life of your investment and let's ignore the effect of inflation for now. You wish to retire and have monthly withdrawals from your retirement fund of $4,000 per month. So outline a savings strategy that you can use to meet this condition. State any assumptions that you are making in designing your investment strategy.

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YOUR WRITING ASSIGNMENT ⇒ Prepare and discuss an "investment plan" that is unique to you. As is stated below, there are two "constants" for everyone's plan ⇒ your investments will earn 9% interest compounded monthly AND you will want to withdraw $4,000 monthly from your investments upon retirement.

For your WRITING ASSIGNMENT (or Math ESSAY if you wish), you are required to prepare an ESSAY that encompasses the following three components:

PART 1 ⇒ You will write an Intro Paragraph, wherein you introduce the problem, discuss some of the parameters/constraints on the problem and outline a brief strategy for how you plan on addressing the problem. MAX LENGTH of this part: 1 - 2 paragraphs

PART 2 ⇒ Through the use of explanations as well as showing some mathematical calculations, outline your solution to the problem: i.e. how did you come up with the investment plan and how do you know they work within the parameters given. This section MUST include:

(a) Showing your math & algebra
(b) text/explanations wherein you describe/explain what was done and how it was done
(c) A summary table might be a good idea

MAX LENGTH of this part: 3 - 4 paragraphs

PART 3 ⇒ You will write a concluding paragraph, wherein you summarize your solution to the problem and acknowledge any problems/issues/constraints/extensions of the method you used to solve the problem. MAX LENGTH of this part: 1 - 2 paragraphs

By Monday (A Block) and by Tuesday (F Block) you will share/email/print your solution and turn it in for grading.

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Here is a sample of the scoring "checklist" that I will use to score/grade/judge your finished product:

Criteria	Not yet meeting "standard"	Approaching "standard"	Meeting "standard"
PART 1: Introduction: Includes reference to context and to problem Gives me an idea of what math and discussion I can expect in your work Introduces the problem solving method that will be used to address the problem Well written, clear, concise			
PART 2: The Method & the Math The method(s) and strategies used are addressed and are clear There are textual explanations in your work as you explain the what and the why of what you are doing When and where appropriate, you show the critical steps and results of your mathematical processes When and where appropriate, your results & data are presented on a properly presented data table ~~When and where appropriate, graphs are included to illustrate/show your workings and results~~	Graphs Not required	Graphs Not required	Graphs Not required
PART 3: Conclusion: Relates the final answer(s) back to the problem Discusses the merits of the problem solving strategy that was used Addresses one or two extensions of the problem/strategy/context/concepts …. Well written, clear, concise			