Homework 4

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1. Go to https://www.treasurydirect.gov/

   There are 3 Sections – Individuals / Financial Institutions / Government

   On the Government page: (As of Dec. 2021)

   1. What is the Total Public Debt?
      - **29,617,215 millions of dollars**
   2. What are the 2 biggest categories of the debt and what are their amounts?
      - **Marketable: 22,590,092 millions of dollars**
        Nonmarketable: 7,027,123 millions of dollars
   3. What is the average Interest Rate?
      - **1.9% (calculated from the Excel file under Strips)**
2. What Securities are sold on Treasury Direct?
   - **Treasury Bills, Treasury Notes, Treasury Bonds, TIPS, Floating Rate Notes**
3. What is the minimum purchase amount of the Treasury Securites?
   - **A minimum of $100**
4. What is the minimum purchase amount of the Series I bonds?
   - **Electronic bonds have a minimum of $25 and paper bonds have a minimum of $50**

Chapter 8

5. Name and describe the four (4) types of inflation
   1. **Price changes initiated by a change in costs (cost-push inflation)**: When prices go up to match rising production costs, such as raw materials or wages
   2. **Price changes initiated by a change in costs (demand-pull inflation)**: When demand is increased and prices are raised to reduce demand to match supply
   3. **Speculation inflation:** "caused by the expectation that prices will continue to rise, resulting in increased buying to avoid even higher future prices" (the textbook).
   4. **Administrative inflation:** "the tendency of prices, aided by union- corporation contracts, to rise during economic expansion and to resist declines during recessions" (the textbook).

Chapter 9

6. What is the Time Value of money?
   - "The **time value of money** is the math of finance whereby a financial return (e.g., interest) is earned over time by saving or investing money." (the textbook)
7. Describe:
   1. What is compounding?

- "arithmetic process whereby an initial value increases or grows at a compound interest rate over time to reach a value in the future" (the textbook)

2. What is compound interest?
   - "involves earning interest on interest in addition to interest on the principal or initial investment" (the textbook)

8. How can the Rule of 72 be used to determine how long it will take for an investment to double in value?
   - "divide the interest rate into the number 72. For example, if the interest rate is 8 percent, 72 divided by 8 indicates that the investment will double in value in nine years" (the textbook). It's a shortcut method for calculations and good for back of the napkin math but shouldn't be used in business
9. Find the future value one year from now of a $7,000 investment at a 3 percent annual compound interest rate. Also calculate the future value if the investment is made for two years.
   - $$\begin{aligned}\text{one year: } 7000 * 1.03 = 7210.00 \\ \text{two years: } 7210 * 1.03 = 7426.30\end{aligned} \tag{2}$$
10. Go to the Federal Reserve Web site, https://www.federalreserve.gov

    Go to Data and then under Household Finance go to Consumer Credit G.19

    1. List the five (5) years of the Commercial bank interest rates on (New car loans) from 2016 -2020
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	2016	2017	2018	2019	2020
48-month	4.3	4.61	5.03	5.39	5.09
60-month	4.14	4.33	5.02	5.31	5.02

    2. List the five (5) years of Finance companies on (New car loans) from 2016-2020
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2016	2017	2018	2019	2020
5.1	5.4	6.1	6.4	5.2