1. *Bank of GoGo*, (BoGOGO for short) advertises a savings account with an interest rate of 8% per year. You create a savings account with the intent of depositing $5000 and not touching this money for three years. As you are creating your account, GoGo (the only bank teller at BoGOGO) asks if you want the interest on your account to be compounded **annually** or **continuously**. Which should you choose to make the most money?

   - If you're only going to let your money collect interest for 1 year, does your choice change? What about 6months?

2. BoGOGO is offering an account that pays 7% interest compounded continuously. If you decide to invest money in this account, how long will it take for your initial investment to double?

3. *The Rule of 70* states that given an interest rate of $n\%$ compounded annually, the doubling time of an investment is approximately $\frac{70}{n}$ years.

   We're going to test how accurate this is. Calculate the doubling time D for an investment P_0 with interest rates:

   - 2% compounded annually

   - 3% compounded annually

   - 4% compounded annually

   - 5% compounded annually