1. Mike works for the Government for 40 years! His job pays $60K /yr. He pays 4% of his monthly pay into a retirement fund, the government matches that 4% of course and throws that into his retirement fund too!

The fund has been performing pretty much at 4.7% growth compounded annually for the entire 40 years.

a. How big is Mike's retirement portfolio when he retires at age 65 after working 40 years? (The fund does continue to earn interest at 4.7% of course even though there are no more contributions going in)

b. He wants to withdraw money from the fund to last him till he is 90 years old. How much will he be able to withdraw monthly

c. His wife says: 'screw that', let's party! Let's use up all the fund till you are 75!

d. Do you think that this retirement income, combined with other government pensions will be sufficient?

2. Jesse wants to buy a house. It costs $340K. He has a down payment of $40K. The bank offers him a variable rate loan at 3.78% compounded monthly, or a fixed rate loan at 4.2% compounded monthly locked in for a 5-year term.

    a. determine his monthly payments if he takes the mortgage loan for 25 years (normal). (Compare the two possibilities)

    b. determine his monthly payment(s) if the interest rates go up by 2%. (The **stress test** that is in the news!). Calculate for both mortgage types)

    c. He inherits $50,000 from an uncle at the end of the first year and puts all of that against the balance of his mortgage. He keeps the same monthly payments, when will the house be fully paid off. (Calculate for both mortgage types)