initial\_investment = int(input("Enter your initial investment: ")) #Ask user for input

interest\_rate = float(input("What is the interest rate: "))  #Ask user for input

years = int(input("Investment duration: "))   #Ask user for input

months = years \* 12 #Have to convert years to months

monthly\_interest\_rate = interest\_rate / 12 / 100 #How the monthly interest rate is figured.

future\_value = initial\_investment #setting variable

total\_interest = 0 #Setting variable

while initial\_investment <= 0 or initial\_investment >= 50000: #These 3 while loops are where the user inputs their info. It loops if the input is not within parameters set.

    print("Please enter a valid investment. ")

    initial\_investment = int(input("Enter your initial investment: "))

while interest\_rate <= 0 or interest\_rate >= 15:

    print("Please enter a valid interest rate")

    interest\_rate = float(input("What is the interest rate: "))

while years <= 0:

    print("Please enter a valid number of years.")

    years = int(input("Investment duration: "))

#This is where my errors are really starting to pop up.

#I need to loop through all the months and calculate the interest.

for month in range(1,months +1): #This iterates through the number of months there are as defined by the years the user entered.

    future\_value += initial\_investment #sets future\_value to include the initial investment

    interest\_gained = future\_value \* monthly\_interest\_rate #How we calculate the interest gained, new future value \* the monthly interest rate

    future\_value += interest\_gained #future\_value is now including the interest gained (as well as the previously added monthly investement earlier.)

    total\_interest += interest\_gained #total\_interest (which was 0) now includes the interest gained amount.

    if month % 12 == 0: #This checks to see if a year has passed, this was discussed in class.

        year = month // 12

        print(f"Year {year}: Investment value is now ${round(future\_value,2)}")

print(f"\nAfter {year} years, your investment will grow to: ${round(future\_value)}")

