CIS 106 – Loops Part 2

Do the code for each of the following problems.

1. Allow the user to enter a principle amount and interest rate repeatedly (need a loop to control the program execution). Compute the annual interest (principle x rate). Compute ending balance to be principle (beginning balance + interest). Display year, beginning balance and ending balance for each of the 5 years. Display the accumulated interest for the 5 years. Note: the new balance by year (this will be the principle for the following year. Format the output.

Example:

Enter principle amount: 10000.00

Enter interest rate: 0.10

Year Beginning Ending

Balance Balance

1. $10,000.00 $11,000.00
2. $11,000.00 $12,100.00
3. $12,100.00 $13,310.00
4. $13,310.00 $14,641.00
5. $14,641.00 $16,105.00

Total interest earned: $6,156.00

1. Fibonacci sequence is a sequence of natural order. The sequence is:

1, 1, 2, 3, 5, 8 etc

Use of for loop compute and display first 20 numbers in the sequence. Hint: start with 1 , 1.

1. Create a text file that contains employee last name and salary. Read in this data. Determine the bonus rate based on the chart below. Use that rate to compute bonus. For each line display the employee last name, salary and bonus. After the loop display the sum of all bonuses paid out.

Salary Bonus Rate

100,000.00 and up 20%

50,000.00 15%

All other salaries 10%

Example file (create your own data with at least 5 lines:

Adams

50000.00

Baker

75000.00

Smith

45000.00

Etc

1. Create a text file with item, quantity and price. Read through the file one line at a time. Compute the extended price (quantity x price). For each line display the item, quantity, price and extended price. After the loop display the sum of all the extended prices, the count of the number of orders and the average order.

Example Data File

Widget

10

50

Hammer

2

10

Saw

4

8

Etc

1. Create a text file with student last name, district code (I or O) and number of credits taken. Compute tuition owed (credits taken x cost per credit). Cost per credit for in district students (district code I) is 250.00. Out of district students pay 500.00 per credit. For each line display student last name, credits taken and tuition owed. After the loop display sum of all tuition owed and the number of students.

Example file

Jones

I

12

Adams

I

10

Baker

O

12

Smith

O

16

I’m not sure if this is correct but I tried a different way for some of these.

#Tommy Kondraros

textFile =open(r"C:\Users\Tommy\OneDrive\Desktop\Salary&BonusText.txt")

print("Salary               Bonus Rate")

print("100,000.00 and up        20%")

print("50,000.00                15%")

print("All other salaries       10%")

high = "20%"

med = "15%"

low = "10%"

bonus = 0

bonusRate = 0

count = 0

for i in range (5):

    name = textFile.readline()

    salary = float(textFile.readline())

    if salary >= 100000:

        bonusRate = 0.20

    elif salary >= 50000 and salary <= 100000:

        bonusRate = 0.15

    elif salary < 50000:

        bonusRate = 0.10

    bonus = salary \* bonusRate

    print("Employee name: " + name, "Salary: ","${:,.2f}".format(salary), "Bonus","${:,.2f}".format(bonus))

#Tommy Kondraros

#Fibonacci Sequence

step = 0

mid = 1

total = 0

count = 0

while (20 >= count):

    if count == 20:

        print(total)

    elif count == 1:

        total = total

    else:

        print(total, ', ', end="", sep="")

    count = count + 1

    step = mid

    mid = total

    total = step + mid

#Tommy Kondraros

text =open(r"C:\Users\Tommy\OneDrive\Desktop\Items.txt")

txtLines = int(sum(1 for \_ in text))

text.seek(0)

numItems = 0

sumExt = 0

largestQuantity = 0

mostOrdered = ""

for i in range (txtLines):

    item = text.readline()

    quatity = int(text.readline())

    price = float(text.readline())

    extPrice = quatity \* price

    numItems = quatity + numItems

    sumExt = extPrice + sumExt

    if quatity > largestQuantity:

        mostOrdered = item

    print("Item: ", item, end="")

    print("Quantity: ", quatity)

    print("Price: ", "${:,.2f}".format(price))

    print("Extended Price: ","${:,.2f}".format(extPrice))

    print("")

print("Sum of extended prices: ", sumExt)

print("Number of orders: ", numItems)

print("The average order is: ", mostOrdered)

amt = float(input("Enter princible amount: "))

intrestRate = float(input("Enter intrest rate: "))

toalInterest = 0

year = 0

print("Year     Beginning       Ending")

print("           Balance      Balance")

print("")

for i in range(5):

    year = year + 1

    addAmt = amt \* intrestRate

    endAmt = amt + addAmt

    print(year ,"     ", "${:,.2f}".format(amt), "  ","${:,.2f}".format(endAmt))

    amt = endAmt

    toalInterest = toalInterest + addAmt

print("")

print("Total intrest earned:","${:,.2f}".format(toalInterest))