Programming Assignment 3

Chapter 2

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\*\* Do not turn in Dirty Code. Do not use snippets from several attempts. You need to have one snip start to finish, all coding. If you just turn in the output it will be ½ wrong! Show your work.

1 Directions write the correct print function for each of the three scenarios directly under them:

Print the follow integer with a comma separator 2987765

print(format(2987765, ‘,d’))

A close up of a sign

Description automatically generated

Print the following integer in a field that is 9 spaces wide 2987765

print(format(2987765, ‘9d’))

A picture containing sitting

Description automatically generated

Print the following integer with a comma separator in a field that is 9 spaces wide 2987765

print(format(2987765, ’9,d’))

A close up of a sign

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2 Directions: Use string concatenation method to break up the below string so the call to the print function will span multiple lines.

When you call the built-in format function, you pass two arguments to the function: a numeric value and a format specifier.

print(‘When you call the built-in format function, you pass two arguments to the function: ‘ +

‘a numeric value and a format specifier.’)

A close up of a screen

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3 Directions: Re-write the below so it will print out with three subjects on the top row and three subjects on the bottom row. They need to be evenly tabbed. This is to be accomplished by writing ONE line of code !

Math English Science Art PhysEd History

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4 Directions: Re-write the below line so it will print out in one line without spaces between

New York City

print('New', 'York', 'City', sep='')

A close up of a sign

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5 Directions: Re-write the below line so that it will print broken into three lines without using a line continuation character.

“I went to the store and I bought several items today, a barometer, a meat thermometer, a thermostat and a really cute teddy bear for my cousin.”

print(‘’’”I went to the store and I bought several items today

a barometer, a meat thermometer, a thermostat

and a really cute teddy bear for my cousin.”’’’)

A screen shot of a computer

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6 Directions: using the below variables write 4 statements, using 1 variable in each. All of the statements are to be written using the variable but displaying the expression when printed to the screen.

Favorite = blue dog = poodle yellow = roses weather = windy

print(‘My favorite color is’, favorite)

print('My sister always wanted a dog. She would have chosen a', dog)

print(yellow, ‘are my favorite flowers’)

print("Today’s weather is very", weather)

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7 A Directions: you are writing and algorithm. An algorithm is followed IN ORDER when creating the program (Question 8 below). Make sure your algorithm variables make sense!

The HR department has asked you to help by writing a program that will make calculating the employees raises easier for them. They want to calculate a 2.5% raise for every employee. Create a program that will ask the HR department to enter the employees current salary and then displays the amount of the raise that employee will be getting.

* Declare constant name for raise amount
* Declare variable for current employee salary
* Declare variable for the raise amount
* Input current employee salary
* Calculate employee raise amount by taking current employee salary and multiplying it by the raise percentage (2.5%)
* Display the raise amount

# creating the constant variable

EMPLOYEE\_RAISE\_PERCENTAGE = .025

# initiating the employees current salaray

current\_salary = 0.0

# initiating the raise amount for the employee

employee\_raise\_amount = 0.0

# creating the prompt asking to input the employees current salary

current\_salary = float(input('Please enter the employees current salary: '))

# performing calculations to get the raise amount

employee\_raise\_amount = (current\_salary \* EMPLOYEE\_RAISE\_PERCENTAGE)

# displaying the raise amount the employee will get

print('The raise amount the current employee will get is', format(employee\_raise\_amount, ',.2f'))

B Directions: You are creating a Flowchart Reference the Flowchart Addendum & Pages 34-35

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8 Directions: Do not combine display statements. Make sure to format decimal for two places. Print statements should use the “sentence with variable inserted that prints the expression method” Comments should be used. Declare & Initialize variables!

The HR department has asked you to help the by writing a program that will make calculating the employees raises easier for them. They want to calculate a 2.5% raise for every employee. Create a program that will ask the HR department to enter the employees current salary and then displays the amount of the raise that employee will be getting.

Write the program -- **they must match** the algorithm written in #7A **and follow** the flow chart in 7B

Python 3.8.5 (tags/v3.8.5:580fbb0, Jul 20 2020, 15:57:54) [MSC v.1924 64 bit (AMD64)] on win32

Type "help", "copyright", "credits" or "license" for more information.

>>> # creating the constant variable

>>> EMPLOYEE\_RAISE\_PERCENTAGE = .025

>>>

>>> # initiating the employees current salaray

>>> current\_salary = 0.0

>>>

>>> # initiating the raise amount for the employee

>>> employee\_raise\_amount = 0.0

>>>

>>> # creating the prompt asking to input the employees current salary

>>> current\_salary = float(input('Please enter the employees current salary: '))

Please enter the employees current salary: 52000

>>>

>>> # performing calculations to get the raise amount

>>> employee\_raise\_amount = (current\_salary \* EMPLOYEE\_RAISE\_PERCENTAGE)

>>>

>>> # displaying the raise amount the employee will get

>>> print('The raise amount the current employee will get is $', format(employee\_raise\_amount, ',.2f'), sep='')

The raise amount the current employee will get is $1,300.00

>>>

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9 Do not combine display statements. Make sure to format decimal for two places. Print statements should use the “sentence with variable inserted that prints the expression method” Comments should be used. Declare & Initialize Variables!

The community church is having a bake sale and they are using your grandmother’s recipe. They will need to make a batch of cookies larger than the standard recipe. Create a program that will adjust your grandmother’s recipe. Here is the standard recipe. For 48 cookies you will need: 1 cup of sugar, 1.5 cups of butter, 2.50 cups of flour. The program should ask the user how many cookies they want to bake and then displays the number of cups of each ingredient necessary to make that number of cookies.

# creating the constant variable

STANDARD\_AMOUNT\_OF\_COOKIES = 48

# initiating variables for each ingridient needed for the recipe

cups\_of\_sugar = 1.0

cups\_of\_butter = 1.5

cups\_of\_flour = 2.5

# initiating the new cups of sugar needed for the new amount of cookies needed

new\_cups\_of\_sugar = 0.0

new\_cups\_of\_butter = 0.0

new\_cups\_of\_flour = 0.0

cookie\_conversion\_total = 0.0

# creating the prompt asking to input the amount of cookies the user wants

cookies\_needed = float(input('Please enter the amount of cookies you want to bake: '))

cookie\_conversion\_total = cookies\_needed / STANDARD\_AMOUNT\_OF\_COOKIES

# calculating the new amounts needed for each ingridient

new\_cups\_of\_sugar = cups\_of\_sugar \* cookie\_conversion\_total

new\_cups\_of\_butter = cups\_of\_butter \* cookie\_conversion\_total

new\_cups\_of\_flour = cups\_of\_flour \* cookie\_conversion\_total

# displaying the number of cups of each ingredient necessary to make that number of cookies.

print('You need', format(new\_cups\_of\_sugar, '.2f'), 'cups of sugar' + ' to make', cookies\_needed, 'cookies')

print('You need', format(new\_cups\_of\_butter, '.2f'), 'cups of butter' + ' to make', cookies\_needed, 'cookies')

print('You need', format(new\_cups\_of\_flour, '.2f'), 'cups of flour' + ' to make', cookies\_needed, 'cookies')

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10 Directions: Make sure to format decimal for two places. Print statements should use the “sentence with variable inserted that prints the expression method” Comments, Declare, Initialize

You want a program that asks the user to enter the amount of a purchase and the desired number of payment instalments. The program should add 5 percent to the amount to get the total purchase amount, and then divide total purchase amount by the desired number of installments and then display messages telling the user the total amount of the purchase, total number of installments, and how much each installment will cost.

# creating the constant variable

AMOUNT\_PERCENTAGE\_ADDED = 0.05

# initiating variables

amount\_of\_purchase = 0.0

payment\_instalments = 0.0

total\_purchase\_amount = 0.0

total\_of\_each\_installments = 0.0

amount\_of\_purchase = float(input('What is the amount of the purchase: '))

payment\_instalments = float(input('What is the desired number of payment instalments you want to do: '))

# Calculating

total\_purchase\_amount = (amount\_of\_purchase \* AMOUNT\_PERCENTAGE\_ADDED) + amount\_of\_purchase

total\_of\_each\_installments = total\_purchase\_amount / payment\_instalments

print('The total amount of the purchase is $', format(total\_purchase\_amount, ',.2f'), sep='')

print('The total number of instalments entered is', int(payment\_instalments))

print('Each instalment will be $', format(total\_of\_each\_installments, ',.2f'), sep=''

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