ASSIGNMENT 1

BIT 100 – INTRODUCTION TO PROGRAMMING



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Source Code

# Name : I Nyoman Surya Pradipta

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# Create a main function.

def main():

# To notify the total initial collection is 0 (zero)

total\_collection = 0

# To call the function name display introduction message.

displayintroductionmessage()

# Declare a global variable inside a function,

# and use it outside the functions.

global name

# (name) now be global, and can be accessed in global scope.

name = input("What is your name? (<Enter> to quit): ")

# By using the while loop we can execute a set of statements

# as long as a condition is true.

# If the variable name is not NULL the main function

# will run the program.

while name != "":

# Call the getinput function after returned the value

# and then printed in the main function.

number\_of\_4r, number\_of\_5r = getinput()

# The purpose of using lists is to make variables

# more presentable.

# Variables taken from computevalues function after returned.

# And then call the computevalues function to displayed in the

# main function.

[total\_number,

price\_4r,

price\_5r,

calculation\_4r\_and\_5r,

delivery\_cost] = computevalues(number\_of\_4r, number\_of\_5r)

# Call the printcomputevalues function with various parameter

# to display in the main funciton.

printcomputedvalues(total\_number,

number\_of\_4r,

number\_of\_5r,

price\_4r,

price\_5r,

calculation\_4r\_and\_5r,

delivery\_cost)

# I've created the total collection condition is 0 (zero)

# And then after a loop while the keyword

# total collection will be added when receiving value.

total\_collection = total\_transactions + total\_collection

# The (\n) keyword is to make new line.

# Looping the name variable if the customer want to make

# other transactions.

name = input("\nWhat is your name? (<Enter> to quit): ")

# The if structure in Python is run to check whether

# this condition is true or false.

# If this condition is true, then Python will run the statement

# in the block condition and vice versa.

if total\_collection == 0:

# If the condition is true.

# If total colection = 0 will print the text.

# The (\n) keyword is to make new line.

print("\nNo transactions for the day.")

# If the condition false, will call the displayfinalresult function.

else:

displayfinalresult(total\_collection)

# This function does not take any parameters,

# but just to display the purpose of the program

def displayintroductionmessage():

print("The purpose of this program is to "

"help Crystal Clear owners to calculate each customer's cost "

"based on the number of photos 4R and 5R printed.")

# This function does not take any parameters,

# and it returns two values, representing the number of

# 4R and 5R photos to be printed

def getinput():

# Eval () will determine the appropriate data type.

# Create more input in one line.

number\_of\_4r, number\_of\_5r = eval(input(

"Enter number of 4R followed by 5R photo "

"to print (e.g. 10, 0): "))

# Using the Python Logical Operators in the while loop.

while number\_of\_4r == 0 and number\_of\_5r == 0:

print("User will not enter both zeros for "

"the number of photos to be printed.")

number\_of\_4r, number\_of\_5r = eval(input(

"Enter number of 4R followed by 5R photo "

"to print (e.g. 10, 0): "))

# Using the Python Logical Operators in the while loop.

while number\_of\_4r < 0 and number\_of\_5r < 0:

print("You must enter both positive integers!")

number\_of\_4r, number\_of\_5r = eval(input(

"Enter number of 4R followed by 5R photo "

"to print (e.g. 10, 0): "))

# Using Python Comparison Operators.

while number\_of\_4r < 0:

number\_of\_4r = eval(input("Enter number of 4R photo: "))

# Using Python Comparison Operators.

while number\_of\_5r < 0:

number\_of\_5r = eval(input("Enter number of 5R photo: "))

# A "return" keyword is used to end the implementation

# of the function of the call

# and return results representing the number of 4R and 5R

# to be printed.

return number\_of\_4r, number\_of\_5r

# This function takes two parameters, the number of photos 4R and 5R

# to be printed.

def computevalues(number\_of\_4r, number\_of\_5r):

# Use the keyword "global" to create multiple executable variables

# outside of the function.

# Because in some statements if I want to return multiple values

# should return all if another variable,

# it can create variables that are not needed.

global additional\_charge, total\_additional\_charge, \

total\_delivery\_cost, total\_transactions

# Counts the number of photos 4R and 5R.

total\_number = number\_of\_4r + number\_of\_5r

# Calculation the price of 4R and 5R photos.

# "format ()" function is used to fix the dot number format,

# to two digits behind the comma.

price\_4r = format(number\_of\_4r \* 0.25, '.2f')

price\_5r = format(number\_of\_5r \* 0.35, '.2f')

# Calculation of the total photos price of 4R and 5R.

calculation\_4r\_and\_5r = format((number\_of\_4r \* 0.25) +

(number\_of\_5r \* 0.35), '.2f')

# Represents shipping costs for the first 50 printout.

delivery\_cost = 13.55

# Represents the next charge for group of 10 or part.

surcharge = 1.75

# The if structure in Python is run to check whether

# this condition is true or false.

# If this condition is true, then Python will run the statement

# in the block condition and vice versa.

if total\_number > 60:

# calculation the number of charge

additional\_charge = int((total\_number - 50) / 10 + 0.9)

total\_additional\_charge = additional\_charge \* surcharge

total\_delivery\_cost = delivery\_cost + total\_additional\_charge

total\_transactions = (number\_of\_4r \* 0.25) + \

(number\_of\_5r \* 0.35) + \

(delivery\_cost + total\_additional\_charge)

# The backslash (\) is used to representing certain

# whitespace characters.

elif total\_number > 50:

additional\_charge = 1

total\_additional\_charge = additional\_charge \* surcharge

total\_delivery\_cost = delivery\_cost + total\_additional\_charge

total\_transactions = (number\_of\_4r \* 0.25) + \

(number\_of\_5r \* 0.35) + \

(delivery\_cost + total\_additional\_charge)

elif total\_number <= 50:

totalled2 = total\_number - 50

additional\_charge = int(totalled2 / 10)

total\_additional\_charge = additional\_charge \* surcharge

total\_delivery\_cost = delivery\_cost + total\_additional\_charge

total\_transactions = (number\_of\_4r \* 0.25) + \

(number\_of\_5r \* 0.35) + delivery\_cost

return [total\_number,

price\_4r,

price\_5r,

calculation\_4r\_and\_5r,

delivery\_cost]

# This function accepts many parameters, including the value that

# has been calculated in computevalues function

def printcomputedvalues(total\_number,

number\_of\_4r,

number\_of\_5r,

price4r,

price5r,

calculation\_4r\_and\_5r,

delivery\_cost):

# The statement call the global "name" variable from main function

# to printed in the other function

print("Bill for", name)

# Repetition builds up a string by multiple concatenations of a string

# with itself (\*)

print(45 \* "-")

# In this statement call the parameters and then

# create the formating align with the format spec align

# such as " < " make the left, " ^ " center, " > " right align.

print(f"{total\_number:<4}{'photos':^9}{calculation\_4r\_and\_5r:>32}")

# Make two conditions true values based on the number photos

# of 4R and 5R.

if number\_of\_4r > 0 and number\_of\_5r > 0:

print('- 'f"{number\_of\_4r:<4}{'4R photos @$0.25':^19}"

f"{price4r:>10}")

print('- 'f"{number\_of\_5r:<4}{'5R photos @$0.35':^19}"

f"{price5r:>10}")

# elif statement allows to create some conditions

# that are of true value.

elif number\_of\_4r <= 0:

print('- 'f"{number\_of\_5r:<4}{'5R photos @$0.35':^19}"

f"{price5r:>10}")

elif number\_of\_5r <= 0:

print('- 'f"{number\_of\_4r:<4}{'4R photos @$0.25':^19}"

f"{price4r:>10}")

if total\_number <= 50:

print("\nDelivery cost" f"{delivery\_cost:>32}")

print("~ First 50 or part of:" f"{delivery\_cost:>13}")

elif total\_number > 50:

print("\nDelivery cost"

f"{format(total\_delivery\_cost, '.2f'):>32}")

print("~ First 50:" f"{delivery\_cost:>24}")

print("~ " f"{additional\_charge:<3}"

f"{'x 10 or part of @$1.75':^24}"

f"{format(total\_additional\_charge, '.2f'):>6}")

# Repetition builds up a string by multiple concatenations of a

# string with itself (\*)

print(45 \* "-")

# "format ()" function is used to fix the dot number format,

# to two digits behind the comma.

print("Total $" f"{format(total\_transactions, '.2f'):>38}")

print(45 \* "=")

# This function takes one parameter,

# representing the total collection of the day or an appropriate message.

def displayfinalresult(total\_collection):

print("\nTotal collection: $", format(total\_collection, '.2f'))

# Execute the function:

main()

Output

/Users/suryapradipta/PycharmProjects/untitled/venv/bin/python "/Users/suryapradipta/Desktop/Python Assignment 1/assignment1.py"

The purpose of this program is to help Crystal Clear owners to calculate each customer's cost based on the number of photos 4R and 5R printed.

What is your name? (<Enter> to quit):

No transactions for the day.

Process finished with exit code 0

/Users/suryapradipta/PycharmProjects/untitled/venv/bin/python "/Users/suryapradipta/Desktop/Python Assignment 1/assignment1.py"

The purpose of this program is to help Crystal Clear owners to calculate each customer's cost based on the number of photos 4R and 5R printed.

What is your name? (<Enter> to quit): Surya

Enter number of 4R followed by 5R photo to print (e.g. 10, 0): -62, -3

You must enter both positive integers!

Enter number of 4R followed by 5R photo to print (e.g. 10, 0): 62, -3

Enter number of 5R photo: 3

Bill for Surya

---------------------------------------------

65 photos 16.55

- 62 4R photos @$0.25 15.50

- 3 5R photos @$0.35 1.05

Delivery cost 17.05

~ First 50: 13.55

~ 2 x 10 or part of @$1.75 3.50

---------------------------------------------

Total $ 33.60

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What is your name? (<Enter> to quit): Jeremy

Enter number of 4R followed by 5R photo to print (e.g. 10, 0): 0, 0

User will not enter both zeros for the number of photos to be printed.

Enter number of 4R followed by 5R photo to print (e.g. 10, 0): -5, 10

Enter number of 4R photo: 10

Bill for Jeremy

---------------------------------------------

20 photos 6.00

- 10 4R photos @$0.25 2.50

- 10 5R photos @$0.35 3.50

Delivery cost 13.55

~ First 50 or part of: 13.55

---------------------------------------------

Total $ 19.55

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What is your name? (<Enter> to quit): Zein

Enter number of 4R followed by 5R photo to print (e.g. 10, 0): -10, -45

You must enter both positive integers!

Enter number of 4R followed by 5R photo to print (e.g. 10, 0): -9, 45

Enter number of 4R photo: 0

Bill for Zein

---------------------------------------------

45 photos 15.75

- 45 5R photos @$0.35 15.75

Delivery cost 13.55

~ First 50 or part of: 13.55

---------------------------------------------

Total $ 29.30

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What is your name? (<Enter> to quit): Wahyu

Enter number of 4R followed by 5R photo to print (e.g. 10, 0): 2500, 2500

Bill for Wahyu

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5000 photos 1500.00

- 2500 4R photos @$0.25 625.00

- 2500 5R photos @$0.35 875.00

Delivery cost 879.80

~ First 50: 13.55

~ 495 x 10 or part of @$1.75 866.25

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Total $ 2379.80

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What is your name? (<Enter> to quit): Ari

Enter number of 4R followed by 5R photo to print (e.g. 10, 0): -25, -21

You must enter both positive integers!

Enter number of 4R followed by 5R photo to print (e.g. 10, 0): -25, -21

You must enter both positive integers!

Enter number of 4R followed by 5R photo to print (e.g. 10, 0): -25, -21

You must enter both positive integers!

Enter number of 4R followed by 5R photo to print (e.g. 10, 0): 25, 21

Bill for Ari

---------------------------------------------

46 photos 13.60

- 25 4R photos @$0.25 6.25

- 21 5R photos @$0.35 7.35

Delivery cost 13.55

~ First 50 or part of: 13.55

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Total $ 27.15

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What is your name? (<Enter> to quit):

Total collection: $ 2489.40

Process finished with exit code 0

