Assignment #3 – Bill’s Books

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**The Math:**

**Constants:**

TAX: 15% (1.15)

**Questions:**

1. **Calculate Discount:**

If subtotal is $9.99 or less (<= 9.99), discount is 0%

discount = subtotal \* 0

If subtotal is $10 to 19.99 (>= 10.00 and <= 19.99), discount is 1%

discount = subtotal \* 0.01

If subtotal is $20 to 29.99 (>= 20.00 and <= 29.99), discount is 2%

discount = subtotal \* 0.02

If subtotal is $30 to 39.99 (>= 30.00 and <= 39.99), discount is 3%

discount = subtotal \* 0.03

If subtotal is $40 or more (>= 40.00), discount is 4%

discount = subtotal \* 0.04

1. **Calculate Subtotal with discount:**

subtotal = subtotal – discount

1. **Calculate Total with tax:**

total = subtotal \* 1.15

1. **Calculate the running subtotal:**

subtotal = subtotal + book price

1. **Calculate number of books:**

Individual customer (increment by 1):

book number = book number + 1

Daily total:

daily total books = daily total books + book number

1. **Calculate other daily totals:**

Number of customers:

Increment by 1 each time the customer entry loop runs

customer = customer + 1

Total daily sales:

total sales = total sales + total

**Pseudocode:**

1. Input customer name
2. Input price of book

Take input of price

Calculate item number

Calculate running subtotal

1. Print item number, price and running subtotal after each book entered
2. Input 1 to display subtotal
3. Calculate discount

If subtotal is $9.99 or less, discount is 0%

If subtotal is $10 to 19.99, discount is 1%

If subtotal is $20 to 29.99, discount is 2%

If subtotal is $30 to 39.99, discount is 3%

If subtotal is $40 or more, discount is 4%

1. Display discount
2. Calculate subtotal

Subtotal = subtotal – discount

1. Calculate total with tax

Total = subtotal \* 1.15

1. Display ‘Customer Total’
2. Dump totals into daily totals and reset all totals
3. Start over at 1 asking for customer name
4. If no customers, input 1 to end
5. Calculate and display daily totals:

Number of customers

Number of books sold

Total sales

**Code:**

#Program: Assignment #3

#Written By: Andrew McDonald (W0426368)

#Date written: 4 Feb 2019

#Purpose: Track individual and daily sales for Bills Books

#Call the main

def main():

#Define constants

TAX = 1.15 #15% tax rate

#Define variables needed

cust\_name = 0

cust\_total = 0 #total customers per day

daily\_total = 0 #total sales per day

daily\_books = 0 #number of books sold per day

print('Bill\'s Books')

print()

#Gather customer name

cust\_name = input('Customer Name: (type 1 to stop)')

#Start main loop

while cust\_name != "1":

#Reset variables

book\_price = 0

book\_number = 0

subtotal = 0

discount = 0

total = 0

#Gather book price

book\_price = float(input('Enter book price (type 1 to stop):'))

#Start book entry loop

while book\_price != 1:

subtotal = subtotal + book\_price

book\_number += 1

#print current information

print('# of books / Price / Subtotal')

print(book\_number, ' /', book\_price, '/ ', subtotal)

#Get next book price

book\_price = float(input('Enter book price (type 1 to stop):'))

#End book entry loop

#print subtotal

print('Subtotal is: $', format(subtotal, ',.2f'))

#Calculate discount

if subtotal <= 9.99:

discount = subtotal \* 0

elif subtotal >= 10.00 and subtotal <= 19.99:

discount = subtotal \* 0.01

elif subtotal >= 20.00 and subtotal <= 29.99:

discount = subtotal \* 0.02

elif subtotal >= 30.00 and subtotal <= 39.99:

discount = subtotal \* 0.03

elif subtotal >= 40.00:

discount = subtotal \* 0.04

#Display discount

print('Discount is: $', format(discount, ',.2f'))

#calculate subtotal with discount

subtotal = subtotal - discount

#calculate total with tax

total = subtotal \* TAX

#print customer total

print('Customer Total: $', format(total, ',.2f'))

#Increase customer count

cust\_total += 1

#Increase daily book count

daily\_books += book\_number

#Increase daily total

daily\_total += total

#Get next customer name

cust\_name = input('Customer Name: (type 1 to stop)')

#End Main Loop

#Display daily totals

print()

print('-------------Totals-------------')

print()

print('Total number of customers: ', cust\_total)

print('Total number of books sold:', daily\_books)

print('Total sales: $', format(daily\_total, ',.2f'))

#display end of program

print()

print('End of program')

#Call the main

main()