Assignment #2 – Sally’s Shear Delight

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**The Math:**

**Given:**

Service 1 - $18.75

Service 2 - $29.50

Service 3 - $38.75

Service 4 - $79.80

Service 5 - $95.50

**Constants:**

Sales Tax - 15%

Seniors Discount (65 and over) – 10%

**Questions:**

1. Calculate subtotal with Seniors Discount.

Since we never have to display the discount on its own, we can calculate the discounted subtotal.

Service (#) \* 0.90 = Subtotal with Seniors Discount

* + Therefore -

Service 1: $18.75 \* 0.90 = $16.88

Service 2: $29.50 \* 0.90 = $26.55

Service 3: $38.75 \* 0.90 = $34.88

Service 4: $79.80 \* 0.90 = $71.82

Service 5: $95.50 \* 0.90 = $85.95

1. Calculate Sales Tax

Service(#) (with or without discount) \* 0.15 = Sales Tax

* + Therefore -

With Discount:

Service 1: $16.87 \* 0.15 = $2.53

Service 2: $26.55 \* 0.15 = $3.98

Service 3: $34.87 \* 0.15 = $5.23

Service 4: $71.82 \* 0.15 = $10.77

Service 5: $85.95 \* 0.15 = $12.89

Without Discount:

Service 1: $18.75 \* 0.15 = $2.81

Service 2: $29.50 \* 0.15 = $4.42

Service 3: $38.75 \* 0.15 = $5.81

Service 4: $79.80 \* 0.15 = $11.97

Service 5: $95.50 \* 0.15 = $14.32

1. Calculate Total?

Subtotal (with or without discount) \* 1.15 = Total

With Discount:

Service 1: $16.87 \* 1.15 = $19.41

Service 2: $26.55 \* 1.15 = $30.53

Service 3: $34.87 \* 1.15 = $40.11

Service 4: $71.55 \* 1.15 = $82.59

Service 5: $85.95 \* 1.15 = $98.84

Without Discount:

Service 1: $18.75 \* 1.15 = $21.56

Service 2: $29.50 \* 1.15 = $33.92

Service 3: $38.75 \* 1.15 = $44.56

Service 4: $79.80 \* 1.15 = $91.77

Service 5: $95.50 \* 1.15 = $109.83

1. Calculate Change?

Payment given – Total = Change

Ex. $50.00 – $44.56 = $5.44

**Pseudocode:**

1. Take input 1-5 for service provided
2. Determine if seniors discount is applicable

* Apply seniors discount (if applicable)

Service (#) \* 0.90 = Subtotal with Seniors Discount

1. Calculate tax

Service(#) (with or without discount) \* 0.15 = Sales Tax

1. Calculate total

Subtotal (with or without discount) \* 1.15 = Total

1. Display total
2. Take input of payment made by customer
3. Calculate change

Payment given – Total = Change

1. Display change
2. Display Sales Slip (contains already calculated data)

**Code:**

#Program: Assignment 2

#Written By: Andrew McDonald (W0426368)

#Date Written: 30 Jan 2019

#Purpose: Calculate the cost of client's haircuts for Sally’s Shear Delight

def main():

#Define constants

SVC1 = 18.75

SVC2 = 29.50

SVC3 = 38.75

SVC4 = 79.80

SVC5 = 95.50

TAX = 0.15

DISCOUNT = 0.9

print('\n\n\t\tSally\'s Shear Delight')

#Ask for input of service

print('\n\n\t\tServices')

print()

print('Select 1 for Men\'s Dry Cut')

print('Select 2 for Men\'s Wash and Cut')

print('Select 3 for Ladies Wash, Cut, and Blowdry')

print('Select 4 for Ladies Colour, Cut and Style')

print('Select 5 for Ladies Colour, Foils, Cut and Style')

service = input('Select a service 1-5')

#Assign price to service selected (sevsel)

if service == '1':

svcsel = SVC1

elif service == '2':

svcsel = SVC2

elif service == '3':

svcsel = SVC3

elif service == '4':

svcsel = SVC4

elif service== '5':

svcsel = SVC5

print()

#Check for seniors discount

sendisc = input('Is customer a senior? (y/n)')

#Apply seniors discount to service selected if required.

#Determine subtotal

if sendisc == 'y':

subtotal = svcsel \* DISCOUNT

else:

subtotal = svcsel

print()

#Calculate tax and total

taxtotal = subtotal \* TAX

total = subtotal + taxtotal

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

print()

#Take payement input and calculate/output change due

pay = input('Input payment $:')

change = float(pay) - float(total)

print('Change due is:', '$', format(change, '.2f'))

print()

print()

#Sales Slip

print(' Sally\'s Shear Delight')

print()

print()

#svcprnt created to output name of service

if service == '1':

svcprnt = 'Men\'s Dry Cut'

if service == '2':

svcprnt = 'Men\'s Wash and Cut'

if service == '3':

svcprnt = 'Ladies Wash, Cut, and Blowdry'

if service == '4':

svcprnt = 'Ladies Colour, Cut and Style'

elif svcsel == SVC5:

svcprnt = 'Ladies Colour, Foils, Cut and Style'

print('Service:', svcprnt)

print('Service cost:', '$', format(svcsel, '10,.2f'))

print('Seniors discount?: ', sendisc)

print()

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

print('Subtotal: ', '$', format(subtotal, '10,.2f'))

print('Tax: ', '$', format(taxtotal, '10,.2f'))

print('Total: ', '$', format(total, '10,.2f'))

print()

print('Payment: ', '$', format(float(pay), '10,.2f'))

print('Change Due ', '$', format(change, '10,.2f'))

print()

print('==========================')

print()

print('Thank you, come again!')

#display end of program

print()

print('End of program')

#Call the main

main()