PART ONE SOURCE CODE

```
#CHALLENGE 1 - Alvin V. Huynh - PSID 1477121 - Tuesday, September 13, 2016

print('\nCHALLENGE 1 - ALVIN V. HUYNH - 1477121\n')


#fixed variables

tax = .08

fries = 5.00

steak = 16.00

pasta = 12.00

vege = 12.00

iceCream = 6.00


#welcome message

print('Welcome to THE RESTAURANT!\nPlease type 1/0 if you want or do not want the following dishes.\n')


#user input

fries1 = int(input('APPETIZERS\nFresh Potato Fries ($5.00): '))

steak1 = int(input('\nENTREES\nGarlic Butter Steak ($16.00): '))

pasta1 = int(input('White Wine Sauce w/ Linguine ($12.00): '))

vege1 = int(input('Ratatouille w/ Olive Oil Sauce ($12.00): '))

iceCream1 = int(input('\nDESSERT\nIce Cream Flavor of Choice w/ Syrup ($6.00): '))


#calculations

subtotalPrice = (fries * float(fries1)) + (steak * float(steak1)) + (pasta * float(pasta1)) + (vege * float(vege1)) + (iceCream * float(iceCream1))

taxes = subtotalPrice * tax

totalPrice = taxes + subtotalPrice


#print message

print('\nSubtotal: $' + format(subtotalPrice, '.2f'))

print('Taxes (8%): $' + format(taxes, '.2f'))

print('Total: $' + format(totalPrice, '.2f'))


print('\nThank you for choosing THE RESTAURANT! Your order will be sent out as soon as possible!')


input('\nPress the ENTER key to end...')
```

PART ONE OUTPUT

```
Python 3.6.0a3 (v3.6.0a3:f3edf13dc339, Jul 11 2016, 21:40:24) [MSC v.1900 64 bit (AMD64)] on win32

Type "copyright", "credits" or "license()" for more information.

>>>

 RESTART:   C:\Users\alvhu\Documents\College\2016   -   B   -   Fall\COSC   1306\Homework\Homework
1\ChallengeOne.py


CHALLENGE 1 - ALVIN V. HUYNH - 1477121


Welcome to THE RESTAURANT!

Please type 1/0 if you want or do not want the following dishes.


APPETIZERS

Fresh Potato Fries ($5.00): 1


ENTREES

Garlic Butter Steak ($16.00): 0

White Wine Sauce w/ Linguine ($12.00): 1

Ratatouille w/ Olive Oil Sauce ($12.00): 0


DESSERT

Ice Cream Flavor of Choice w/ Syrup ($6.00): 1


Subtotal: $23.00

Taxes (8%): $1.84

Total: $24.84


Thank you for choosing THE RESTAURANT! Your order will be sent out as soon as possible!


Press the ENTER key to end...

>>>
```

PART TWO SOURCE CODE

```
#CHALLENGE 2 - Alvin V. Huynh - PSID 1477121 - Tuesday, September 13, 2016


print('\nCHALLENGE TWO - ALVIN V. HUYHH - 1477121\n')


killIndicator = 'Y'


#user input
def promptInput():
    print('\nNote, this program only converts up to 5 bits. (0 - 31)')
    number = int(input('Decimal number to binary: '))
    return number


#kill indicator
def promptKill():
    killValue = str(input('\nRestart? (Y/N): ')) #kill indicator
    return killValue


#conversion
def decimalToBinary(number):
    if(number >= 0 and number <= 31):
        binary = str('{0:b}'.format(number)) #conversion
        counter = len(binary) #character counter
        if(counter != 5):
            print('\nBinary: ' + ((5 - counter) * '0') + binary) #adds leading zeroes
        else:
            print('\nBinary: ' + binary)
    else:
        print('ERROR_1: User input not in range (0 - 31).') #error return


#main sequence
while(killIndicator in ('Y', 'y')):
    number = promptInput() #prompt for user input
    decimalToBinary(number) #function call using input
    killIndicator = promptKill() #repeat or kill program
    if(killIndicator not in ('Y', 'y', 'N', 'n')):
```

```
        while(killIndicator not in ('Y', 'y', 'N', 'n')): #detects invalid inputs
            print('ERROR_2: Invalid input.')
            killIndicator = promptKill()
    if(killIndicator in ('N', 'n')):
        print('\nPROGRAM ENDING.')
```

PART TWO OUTPUT

```
Python 3.6.0a3 (v3.6.0a3:f3edf13dc339, Jul 11 2016, 21:40:24) [MSC v.1900 64 bit (AMD64)] on win32

Type "copyright", "credits" or "license()" for more information.

>>>

 RESTART:   C:\Users\alvhu\Documents\College\2016   -   B   -   Fall\COSC   1306\Homework\Homework
1\ChallengeTwo.py


CHALLENGE TWO - ALVIN V. HUYHH - 1477121



Note, this program only converts up to 5 bits. (0 - 31)

Decimal number to binary: 9


Binary: 01001


Restart? (Y/N): Y


Note, this program only converts up to 5 bits. (0 - 31)

Decimal number to binary: 19


Binary: 10011


Restart? (Y/N): y


Note, this program only converts up to 5 bits. (0 - 31)

Decimal number to binary: 32

ERROR_1: User input not in range (0 - 31).


Restart? (Y/N): y


Note, this program only converts up to 5 bits. (0 - 31)

Decimal number to binary: -5

ERROR_1: User input not in range (0 - 31).


Restart? (Y/N): o

ERROR_2: Invalid input.
```

```
Restart? (Y/N): n


PROGRAM ENDING.

>>>
```