# CS10 Python Programming Homework 2

1. You must turn in your program listing and output for each program set. Start a new sheet or sheets of paper for each program set. Each program set must have your student name, student ID, and program set number/description.

2. You must STAPLE (not stapled assignments will not be graded resulting in a zero score) your programming assignment and collate them accordingly. Example Program set 1 listing and then output, followed by Program Set 2 listing and output and so on.

3. Please format you output properly, for example all dollar amounts should be printed with 2 decimal places. Make sure that your output values are correct (check the calculations).

4. Each student is expected to do their own work. **IF IDENTICAL PROGRAMS ARE SUBMITTED, EACH IDENTICAL PROGRAM WILL RECEIVE A SCORE OF ZERO.**

**Program 1**

Lottery program. The program randomly generates a two-digit number, prompts the user to enter a two-digit number, and determines whether the user wins according to the following rules:

1. if the user's input matches the lottery In the exact order, the award is $10,000.

2. if all the digits in the user's input match all the digits in the lottery number, the award is $3,000.

3. if one digit in the user's input matches a digit in the lottery number, the award is $1,000.

**Program 2 Using Loops (Do not use For loop for this program)**

Stock Transaction Program

Last month Joe purchased some stock from Schmoe, Inc.

Write a program that allows the user to input the followings as many times as he/she wants until the user is done (example it can be 5):

1. The name of the
2. Stock Number of shares Joe bought
3. Stock purchase price
4. Stock selling price
5. Broker commission

displays the following paid for the stock(s) that Joe had transacted ( if Joe entered 5 sets of stocks transactions then output 5 sets of stocks).
:

1. The Name of the Stock
2. The amount of money Joe paid for the stock (number of shares bought * purchase price)
3. The amount of commission Joe paid his broker when he bought the stock. (Amount he paid for stocks * commission in percent)
4. The amount that Jim sold the stock for. (number of shares * selling price)
5. The amount of commission Joe paid his broker when he sold the stock. (Amount he sold shares * commission in percent)
6. Display the amount of money Joe had left when he sold the stock and paid his broker (both times). If this amount is positive, then Joe made a profit. If the amount is negative, then Joe lost money. Profit/loss =(amount paid to buy stocks + commission) – (amount for sold stocks– commission)

**Program 3 – Use for Loops only**

Convert program 2 codes to use For loops to enter stocks data and output the stocks data.

You are to ask the user how many stocks does he/she wants to input.  For example,

How many stocks do you want to enter now? 3

Your program must only allow user to enter 3 sets of stocks and output 3 sets of stocks.

Solution to HW 1 to help with your loops.

```
NUM_SHARES=int(input("Enter Number of shares : "))
PURCHASE_PRICE=float(input("enter Purchase price : "))
SELLING_PRICE=float(input("Enter selling price : "))
COMMISSION_RATE=float(input("Enter Commission : "))

# Variables
amountPaidForStock = 0.0  # Amount paid for the stock
purchaseCommission = 0.0  # Commission paid to purchase stock
totalPaid = 0.0           # Total amount paid
stockSoldFor = 0.0        # Amount stock sold for
sellingCommission = 0.0   # Commission paid to sell stock
totalReceived = 0.0       # Total amount received
profitOrLoss = 0.0        # Amount of profit or loss

# Calculate the amount that Joe paid for the stock, not
# including the commission.
amountPaidForStock = NUM_SHARES * PURCHASE_PRICE

# Calculate the amount of commission that Joe paid his broker
# when he bought the stock.
purchaseCommission = COMMISSION_RATE * amountPaidForStock

# Calculate the total amount that Joe paid, which is the amount
# he paid for the stock plus the commission he paid his broker.
totalPaid = amountPaidForStock + purchaseCommission

# Calcualate the amount that Joe sold the stock for.
stockSoldFor = NUM_SHARES * SELLING_PRICE

# Calculate the amount of commission that Joe paid his broker
# when he sold the stock.
sellingCommission = COMMISSION_RATE * stockSoldFor

# Calculate the amount of money left over, after Joe paid
# his broker.
totalReceived = stockSoldFor - sellingCommission

# Calculate the amount of profit or loss. If this amount is a
# positive number, it is profit. If this is a negative number it
# is a loss.
profitOrLoss = totalReceived-totalPaid

# Print the required data.
print ("\n\nAmount paid for the stock:      $", format(amountPaidForStock,
'10,.2f'))
print ("Commission paid on the purchase:$", format(purchaseCommission,
'10,.2f'))
print ("Amount the stock sold for:      $", format(stockSoldFor, '10,.2f'))
print ("Commission paid on the sale:    $", format(sellingCommission,
'10,.2f'))
print ("Profit (or loss if negative):   $", format(profitOrLoss, '10,.2f'))
```