Problem Set - Functions Pass By Value

1. Allow the user to enter a quantity and price, use ctl+z to stop. Use a function to compute the total (quantity times price). The function should be passed the quantity and price and then return the total. In the function, provide a 10% discount if the total is over $10,0000.00. Display quantity, price and total. Sum and display the extended price.

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| Input | Process | Output |
|  | CompExtPrice(qty, unitprice)  Extprice = qty\*unitprice  If extprice > 10000  Discamt = extprice \* 0.10  Else  Discamt = 0  newExtPrice = extPrice – discamt  return newExtPrice |  |
| Qty |  | Extprice |
| price | Main  totalExtPrice = 0  Do you want to do this program (Yes or No)  While (Yes)  Input qty, price  Extprice = CompExtPrice(qty,price)  Display qty, price, Extprice  totalExtPrice = totalExtPrice + extprice  Do you want to continue with this program? |  |
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|  | Display totalExtPrice | totalExtPrice |
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1. Enter players last name, number of hits and at bats at the keyboard, use ctl+z to stop. Use a function to compute batting average. Pass the hits and at bats to the function. The function should return batting average. Display last name and batting average. Give a count of the number of players entered.

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| Input | Process | Output |
|  | CompBatAvg(hits, atbats)  BatAvg = hits/atbats  Return BatAvg |  |
| Hits |  | BatAvg |
| Players | Main  TotalPlayers = 0  Do you want to do this program (Yes or No)  While (Yes)  Input LastName, hits, atbats  BatAvg=CompBatAvg(hits, atbats)  TotalPlayers = TotalPlayers + 1  Do you want to continue with this program? |  |
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|  | Display LastName, BatAvg, NumOfPlayers |  |
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1. Enter the destination city, miles travelled and gallons used for a trip, use ctl+z to stop. Use a function to compute miles per gallon. Pass miles travelled and gallons used to the function. The function should return miles per gallon. Count the number of entries made (number of trips) Display destination city, miles and mpg. At end display the number of entries made.

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| Input | Process | Output |
|  | CompMpg(Miles,Gallons)  Mpg = Miles/Gallons  Return Mpg |  |
| Miles, Gallons | Main  TotalTrips = 0  Do you want to do this program (Yes or No)  While (Yes)  Input City, Miles, Gallons  Mpg = CompMpg(Miles, Gallons)  Display City, Miles, Mpg  TotalTrips = TotalTrips + 1  Do you want to continue with this program? | Mpg, City |
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|  | Display TotalTrips | TotalTrips |
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1. Allow the employee to enter last name, job code and hours worked, use ctl+z to stop. Use a function to determine the pay rate. Pass to this function the job code and it should return rate of pay. Use Job code L is $25/hr, A is $30/hr and J is $50/hr for respective pay rates. Compute gross pay. Give time and a half for overtime. Display last name and gross pay. Sum and display total of all gross pay.

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| Input | Process | Output |
|  | CompPayRate(JobCode)  if job\_code == 'L': return 25.0  elif job\_code == 'A': return 30.0  elif job\_code == 'J': return 50.0  else: return 0.0  CompGrossPay(hrsworked, PayRate)  If hrsworked <= 40:  return hrsworked \* PayRate  else:  pay = 40 \* pay\_rate  overtime = (hours\_worked - 40) \* (pay\_rate \* 1.5)  return pay + overtime |  |
| JobCode |  | PayRate |
| JobCode,  hrsworked,  LastName | Main  TotalGrossPay = 0  Do you want to do this program (Yes or No)  While (Yes)  Input LastName, JobCode, hrsworked  PayRate = CompPayRate(JobCode)  GrossPay = CompGrossPay(hrsworked, PayRate)  Display LastName, GrossPay  TotalGrossPay = TotalGrossPay + GrossPay  Do you want to continue with this program? |  |
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|  | Display TotalGrossPay | TotalGrossPay |
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1. Allow the user to enter student last name, credit hours and district code, use ctl+z to stop. Use a function to compute tuition owed. Charge In district (code of I) $250 per credit hour. Out of district (code of O) is $550 per credit hour. The function should receive credit hours and district code and return tuition owed. Display student name and tuition owed. Sum and display total of all tuition owed.

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| Input | Process | Output |
|  | CompTuitionOwed(DistrictCode, CreditHours)  if DistrictCode == “I”  Price = 250  else:  Price = 550  TuitionOwed = Price \* CreditHours  return TuitionOwed |  |
| LastName,  DistrictCode,  CreditHours | Main  TotalTuition = 0  Do you want to do this program (Yes or No)  While (Yes)  Input LastName, CreditHours, DistrictCode  TuitionOwed = CompTuitionOwed(DistrictCode, CreditHours)  Display LastName, TuitionOwed  TotalTuition = TotalTuition + TuitionOwed  Do you want to continue with this program? | TuitionOwed |
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|  | Display TotalTuition | TotalTuition |
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