Problem Set – Introduction to Functions.

- Allow the user to repeatedly enter a quantity and price. Prompt the user on whether they want to do the program (Yes or No). 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.

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	Main Totalextprice = 0 Do you want to do this program (yes or no) While (yes) Input qty, price Extprice = compextprice (qty, unitprice) Display qty, price, extprice Totalextprice = totalextprice + extprice Do you want to continue with this program?	Extprice
price	Display totalextprice	totalextprice

- Enter players last name, number of hits and at bats at the keyboard. Prompt the user on whether they want to do the program (Yes or No). 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.

Input	Process	Output
lastname	Prompt user for lastname, number of hits and atbats	lastname
hits	Validate and pass hits and at-bats to a function	battingavg
atbats	Compute battingavg = hits / atbats	totplayers
	Use loop to repeat until user says “No” Prompt user: Continue? (Yes/No)	
	Keep count of players processed	

- Enter the destination city, miles travelled and gallons used for a trip. Prompt the user on whether they want to do the program (Yes or No). Use a function to compute miles per gallon and cost of gas. Pass miles travelled and gallons used to the function. The function should return miles per gallon anf compute gas cost to be gallons times 3.00. Count the number of entries made (number of trips) Display destination city, miles, mpg and gas cost. At end display the number of entries made, total miles travelled for all trips and total gas cost of all trips.

Input	Process	Output
city	Prompt user for city, miles, and gallons	cityname
miles	Pass miles and gallons to a function	mpg
gallons	Compute MPG = miles / gallons in function	gascost
	Gas cost = gallons × 3.00	totaltrips, miles cost
	Keep running totals of trips, miles, and total gas cost	
	Prompt user: Continue? (Yes or No)	

- Allow the employee to enter last name, job code and hours worked. Prompt the user on whether they want to do the program (Yes or No). Use a function to determine the pay rate. Pass to this function the job code and it should return rate of pay and gross 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,hours, pay rate and gross pay. Sum and display total of all gross pay.

Input	Process	Output
lastname	Prompt for last name, job code, and hours worked	lastname
jobcode ('L', 'A', or 'J')	Pass job code to function to determine pay rate	payrate
hours	Calculate gross pay (include time and a half for hours > 40)	grosspay
	Keep running total of gross pay	total_gross_pay
	Prompt user: Continue? (Yes or No)	

- Allow the user to enter student last name, credit hours and district code. Prompt the user on whether they want to do the program (Yes or No). 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.

Input	Process	Output
lastname	Prompt for last name, credit hours, and district code	studentname
credithours	Pass credit hours and district code to function	tuitionowed
districtcode ('I' or 'O')	In-district: $250/credit, Out-of-district: $550/credit	totaltuition
	Calculate tuition in function and return value	
	Keep running total of tuition owed	
	Prompt user: Continue? (Yes or No)	