Problem Set – Introduction to Functions.

1. 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
Quantity	Prompt user for quantity	Display quantity
Price	Prompt user for price	Display price
Yes/No	Ask user if they want to continue	Repeat or exit
	Total = quantity * price	Display total (with discount if applicable)
	Apply 10% discount if total >10000.00	total
	Accumulate grand total	Grand total

2. 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
Last name	Prompt for last name	Display last name
Hits	Prompt user number of hits	Display batting average
At bats	Prompt user for number of at bats	Display count at the end
Yes/No	Ask if they want to continue	
	Batting average = hits / at bats	
	Count number of players entered	

3. 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
Destination city	Prompt for destination	Display destination
Miles Travelled	Prompt for miles	Display mpg
Gallons Used	Prompt for gallons	Display gas cost
Yes No	Ask if they want to continue	Display total trips, miles, and cost
	MPG = miles/gallons	
	Cost = gallons * 3.00	
	Accumulate totals for trip miles and gas cost	

4. 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
Last name	Prompt for last name	Last name
Job code (L, A, J)	Prompt for job code	Pay rate
Hours worked	Prompt for hours worked	Gross pay
Yes No	Ask if they want to continue	Total
	Determine pay rate based on job code	
	Calculate gross pay (overtime>40 hrs gets 1.5)	
	Accumulate total gross pay	

5. 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
Last name	Prompt for last name	Last name

Input	Process	Output
Credit hours	Prompt for credit hours	Tuition owned
District code (I or O)	Prompt for district code	Display tuition at the end
Yes No	Ask if they want to continue	
	Compute tuition	
	Total tuition	