Lansing Community College

25 points Homework Assignment #5B

Outcomes:

1. Create and use while and for loops for repetition.
2. Validate input data using a while loop.
3. Create and use accumulator and counter variables.

Use the links in the Homework 5 folder to: 1) Watch the video tutorial "Creating Visio 2016 Hierarchy Charts"; 2) Download and study the very similar "Runner's Times" example problem which is an extension of the "Lap Time" example problem which should also be studied; 3) Download and study the "Designing a Program – Budget" example problem; 4) Read Chapter 5 in the Flowcharting Guide; and 5) View the PowerPoint slides for Chapter 4.

This program will input a salesperson's name followed by the first sale amount and then the number of sales as indicated below for a used car dealership. Use a while loop to process the salespersons. Salespersons may have a different number of sales. Use a for loop to process the sales for each salesperson. The range for valid sales amounts is $1 through $25000. After all the sales have been entered for a salesperson, three results will be displayed: average sale amount; highest sale; and lowest sale. Use a function to process each salesperson and display their results using dollars and cents including a dollar sign. At the end of the program, display the total number of salespersons (it might not always be 4 as shown in the test data). Study the Runner's Times example problem in the Homework 5 folder. It contains both logic diagrams and the matching Python program which illustrate concepts you will find very useful for solving this problem.

Using the following test data for salespersons, calculate the average, highest, and lowest sales for each.

salesperson's name	first sale amount	number of sales	remaining sales	average sale	highest sale	lowest sale
Jose	8500	3	14499, 1	$7666.67	$14499.00	$1.00
Sally	15500	1				
Bill	6000	3	11550, 25000			
Rachel*	-100, 30000, 10000	2	25001, 0, 9575			

*for Rachel, 4 of the sales are invalid to test your validation logic

Submit each of the following in electronic format following class standards inside a compressed folder using the D2L assignment folderes for Homework 5.

Use the logic diagrams assignment folder to submit inside a compressed folder:

1. The completed table of test data shown above. (2 points)
2. A hierarchy chart drawn with MS-Visio. (2 points)

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3. Program flowcharts drawn with MS-Visio showing your logical solution. (7 points)

Use the program assignment folder to submit inside a compressed folder:

4. A Python program implementing the solution shown in your logic diagrams. (14 points)