CIS 121 Problem Set 9 & 10

Problem Set 9 is #1 and #2 below. We did these in class. Please upload into problem set 9 upload.

Problem set 10 is 3 through 8 below. Please upload into Problem set 10 upload.

1. Allow the student to enter their last name and high school GPA for any number of students (use ctl+z to stop). Write a function that receives the GPA and returns the scholarship award. Hint: use a regular function that is passed the GPA (by value) and uses a return statement for scholarship award (see table below). Display the last name, GPA and scholarship award for each student. Also display the total number of students who entered their GPA as well as the total scholarship money awarded (sum of all scholarship awards).



**GPA** **Scholarship Award**

4.0 (top GPA) $20,000

>=3.5 $15,000

>=3.0 $10,000

>=2.5 $5,000

Lower 2.5 $0

1. Allow the user to enter quantity and price for any number of items (use ctl+z to stop). Write a function that receives (pass by value) the quantity and price and computes and returns the extended price (quantity x price). Display quantity, price, extended price for each item. Also display the total of all orders (sum of all totals).
2. The user will enter last name and salary for any number of employees (use ctl+z to stop). Write a function that receives (pass by value) salary and returns bonus (10% of salary). Display last name, salary, and bonus for each employee. Also display total number of employees, total salary and average salary.
3. Allow users to enter the market value of a home for any number of homes (use ctl+z to stop). Write a function that receives the market value (pass by value) and returns the assessed value (30% of market value). Display the market value and assessed value for each entry. Also display the total number of users who entered data, the sum of all market values, the sum of all assessed values.
4. Allow any number of customers to enter the square footage of floor they wish to cover. They also need to enter a code indicating which type of flooring they wish to use (see below). Write a function that receives square footage and floor code (pass by value) and returns the cost (cost of material and cost of installation). Display square footage, flooring code and cost for each entry. Also display the total number of customers entering data, the sum of all cost.

**Flooring Code** **Cost Per Sq Ft** **Cost of Installation/Sq Ft**

V (for vinyl) 25.00 2.00

L (for laminate) 6.00 1.00

C (for carpet) 4.50 2.50

T (for tile) 3.50 1.50

1. The user will enter ticket number and citation code (see below) for any number of tickets (use ctl+z to stop). Write a function that receives the citation code (pass by value) and returns the fine (see table below). Display the ticket number, citation code, and fine for each entry. Also display the total number of users who entered data and the total fines due.

**Citation Code** **Fine**

S (for speeding) 100.00

C (improper lane change) 50.00

R (running red light) 75.00

A (accident) 200.00

1. The manager of a department store needs to enter current inventory balances and product code after a physical inventory (where people count products on the shelf) for any number of items (use ctl+z to stop). Use a function that receives the product code and inventory balance (pass by value) and returns the amount to reorder ( 0 when current inventory is less that reorder point or difference between reorder point and inventory balance). Display the product code, inventory balance, amount to reorder. Also display the total quantity to reorder.

**Product Code** **Reorder Point**

P ( for slacks) 25

S (for shirts) 10

B (for belts) 5

O (for socks) 20

K (for coats) 5