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CIS121 061 - Introduction to Programming
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CIS 121 Introduction to Programming
Problem Set 13 – CIS 121 Arrays and Vectors

1. Prompt the user for a number that will be used to dynamically define parallel arrays. One array will contain the make of an auto (Honda, Chevrolet etc) and the other array will contain the model (Accord etc).

   Once you have the number of the array, then allow the user to enter the data into each array using an loop.

   Write a function to display the arrays.

2. Develop a structure that holds employee first name, employee last name, hours, rate and gross pay. Next create a vector of n occurrences of this structure. Loop over the structure to have the user enter data for each employee. Write a function that is called within this loop to compute gross pay and add it to the vector occurrence. Pass to this function the hours and rate and return gross pay. Give time and a half for hours over 40. Next, loop over the vectors of structures to display the structure elements. Display the employee's gross pay along with the other data within this loop.

3. Develop a structure that holds student first name, student last name, district code (I or O), enrolled credit hours and tuition balance. Make the structure a global structure by defining it outside of main and before any functions.

   Next, use this structure to create a dynamic vector. Write a loop that repeatedly prompts the user for first name, last name, district code, and credits taken. Use ctl+z to stop.

   For each user input, create a vector occurrence. Call a function to compute tuition. Pass to this function district code and enrolled credits and charge $250.00 per credit hour for in district students (district code == 'I') and 500.00 per credit hours for all other students. The function should compute and return tuition owed (enrolled credits x charge per credit hour). Load the tuition owed into the vector.

   Lastly, call another function to display each occurrence of the vector. Use a range-based loop to accomplish this. At the end display the number of students (number of vector occurrences) by using the size method of the vector.