CS 162 Rubric(/65) Name:

Hash Table

Please submit a working C++ program that creates a hash table of a candy store's inventory. The table will be an array of structures. The program should permit price checks and should enable item quantities to be increased or decreased. The table's data values will be read from a text file. The file is "candy.txt", and is available next to this rubric in D2L. The program will initialize the table by using a hash function to place each structure in an appropriate array location. The data structure to use is:

```
struct Candy

{

        string  IDcode;          // 4-char alphanumeric code

        string  itemName;        // name/description of the candy

        double quantity;  // quantity on hand, in pounds

        double price;            // price per pound

};
```

You may decide on the array size. Create an appropriate hash calculation to assign each element into the array. Decide how collisions will be handled; for this assignment, use a method other than a linear probe.

Provide a menu for the user. Options should include the items listed in the rubric below

5 points – use of good programming practices (ie. Indents, comments, etc.)

10 points – program uses modularity in code

40 points – The program contains all components for the menu

- availability check: is an item in stock (quantity > 0), and if so, what is its price? (10 pts)
- purchase: decrement the quantity by some amount (10 pts)
- delivery: increase the quantity(10 pts)
- inventory: print the complete inventory(10 pts)

10 points – Main method tests all parts appropriately