1. Use of at least three Abstract Data Types
   1. Queue for multiple items ordered.
   2. **We need two more.**
2. Use of inheritance and polymorphism
   1. Parent class fruit
   2. Child class apple
   3. **We need ideas on how to use polymorphism.**

3. Use of recursion

a. Calculate the amount of change

4. Connection and use of a simple database?? **I have emailed him to elaborate on this.**

5. At least one sorting algorithm

a. Sort the items by price

6. At least one search algorithm

a. Search for row and column number

7. Use of a graphical user interface

a. Create 5 number buttons 1-5

b. Create 5 letter buttons A-E

c. Create text field for current input

d. Create text field for current order, include prices.

e. Create plenty of food items.

f. Create a text field for the amount of money the user is entering.

g. Create an enter button that stores the order in a queue. Somehow use a searching algorithm to compare the order to the inventory?

Create a vending machine that has a panel where the user can enter both letters and numbers to create an order. The letters will be the column and the numbers will be the rows. Use a queue to store the order and process which was first. Create edible items to store in the vending machine. Use inheritance for certain types of food. Fruit, candy, etc every item needs a price, and an item-number. Let the user enter the amount of money that they have, and use recursion to return change in as few coins as possible.

Maybe have a vend button?

This is all I have right now. I’m going to be working on this more tonight, but I wanted to put it up so that we can all start working off it as soon as possible.