Chapter 3.0 Problem Set

# Problem 3.0.1: Class Diagram from Code

Create a class diagram to match the following C++ code:



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# Problem 3.0.2: Code from Class Diagram

In C++, write code to match the following class diagram:



Note that you do not need to implement the methods and you can assume that the deque class already exists.

template <typename T>  
  
class queue {  
  
public:  
   queue assign(queue rhs) const;  
   queue copy(queue rhs) const;  
   int size() const;  
   bool empty() const;  
   push(T t) const;  
   pop() const;  
   T front() const;  
   T back() const;  
  
private:  
   deque data;  
};  
  
  
class deque {  
   };

# Problem 3.0.3: Grocery List Class Diagram

Create a class diagram to match the following problem definition:

A grocery list application maintains a collection of grocery lists. Each grocery list can be one of three types: alphabetical list, categorical list, or cost-priority list. A list item consists of three components: the name, the quantity, and the category. The category is a class which consists of an enumeration of 10 categories.

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# Problem 3.0.4: Charts Class Diagram

Create a class diagram to match the following problem definition:

A personal finance application has a chart feature. Each chart has a title and a collection of transactions to be displayed. There are several categories of charts: tables, bar graphs, pie charts, and line graphs. For table charts, there can be single-account transactions, category summaries, and by-month summaries. For bar graphs, there are income / spending histograms and account balance histograms. For pie charts, there are two flavors: income categories and spending categories. Finally, the line graphs will be two flavors: single account histogram, net worth histogram.

A diagram of a chart

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