

+-----+ Scrooge and Marley Ltd. +-----+	
Pay to the order of: Ebenezer Scrooge	187.75
250.00 gross – 62.25 tax	E. Scrooge
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+-----+ Scrooge and Marley Ltd. +-----+	
Pay to the order of: Bob Cratchit	13.00
15.00 gross – 2.00 tax	E. Scrooge
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Your job includes printing the border around the check and formatting the internal information.

- Suppose that you have been assigned the task of computerizing the card catalog system for a library. As a first step, your supervisor has asked you to develop a prototype capable of storing the following information for each of 1000 books:

- ✧ The title
- ✧ A list of up to five authors
- ✧ The Library of Congress catalog number
- ✧ Up to five subject headings
- ✧ The publisher
- ✧ The year of publication
- ✧ Whether the book is circulating or noncirculating

Design the data structures that would be necessary to keep all the information required for this prototype library database. Given your definition, it should be possible to write the declaration

```
libraryDB libdata;
```

and have the variable `libdata` contain all the information you would need to keep track of up to 1000 books. Remember that the actual number of books will usually be less than this upper bound.

Write a procedure `SearchBySubject` that takes as parameters the library database and a subject string. For each book in the library that lists the subject string as one of its subject headings, `SearchBySubject` should display the title, the name of the first author, and the Library of Congress catalog number of the book.

- Write a function `MidPoint(p1, p2)` that returns the midpoint of the line segment between the points `p1` and `p2`. The argument and the result are each of type `pointT`, which was defined in the text as follows: