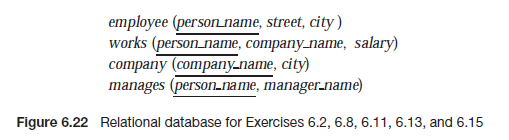
1. **[60 points; 10 points each] Consider the relational database of Figure 6.22, page 250 of the textbook.**

**Give an expression in relational algebra to express each of the following queries:**

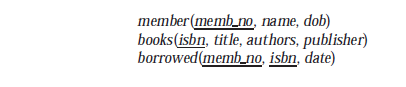
* 1. **Find the names of all employees who live in the city "Brooklyn".**
  2. **Find the names and cities of residence of all employees who earn a salary of at least $50,000.**
  3. **Find the names of all employees who work for the company "Fedco" and earn a salary of at least $50,000.**
  4. **Find the names and cities of residence of all employees who work for a company located in the city "Brooklyn".**
  5. **Find the number of employees managed by each manager.**

*manager\_name* G*count(person\_name)*(*manages*)

* 1. **Find the names of all employees who earn more than every employee of "Small Bank Corporation"**

*r* ←G*max(salary)*()

1. **[40 points; 10 points each] 6.14 (parts a, b, c, d) page 253 of the textbook.**

**Consider the following relational schema for a library: **

**Write the following queries in relational algebra.**

* 1. **Find the names of members who have borrowed any book published by “McGraw-Hill”.**
  2. **Find the name of members who have borrowed all books published by “McGraw-Hill”.**
  3. **Find the name and membership number of members who have borrowed more than five different books published by “McGraw-Hill”.**

*s* ←*memb\_no* G*count(isbn)as num ( r )*

* 1. **For each publisher, find the name and membership number of members who have borrowed more than five books of that publisher.**

*s* ←*publisher, memb\_no* G*count(isbn)as num ( r )*