

You are required to design and implement a **Rental Management System** for *StrawberryField's*

Rental Management Inc., which manages rental properties on behalf of the owners. The system to be designed is to assist the rental manager to keep track of rental properties and lease agreements using a relational database for data and transaction management.

1.0 A description of the *information* managed at each of the *StrawberryField* offices is given below:

StrawberryField has several branches located throughout California.

Each **branch** is identified by a **branch number**, **phone** and **address (street, city and zip)**.

Each branch has several **employees** – **managers**, **supervisors** and **staff**. A manager supervises the supervisors and a supervisor manages a number of rental properties. Managers, supervisors and staff, in addition to their **employee ids**, **names** and **phones**, have a **start date** of their employment and **job designation** (*manager, supervisor or staff*).

A rental property is identified by a **number** (unique among all branches), **property owner**, **address**, **number of rooms**, **monthly rent**. A rental property has a **status** that can be **available**, **not-available** or **leased**. A rental property's availability is indicated by the **start date of availability**.

A rental property is listed with one **property-owner**. An owner may own more than one rental property. **A property-owner's name**, **permanent address** and **phone number** should be recorded. The Rental Management company charges (for managing the property and rental details) the property owner a 10% of the rent, per month, once the property is rented.

Each rental property is managed by a **supervisor**. A supervisor can manage up to three rental properties. When a property is rented, a **lease agreement** should be created.

1.1 A lease agreement consists of the following information:

- a) Rental Property Number, address
- b) Renter's name
- c) Renter's Home and Work phone
- d) Starting day of lease
- e) Ending day of lease
- f) Deposit amount (one month's rent)
- g) Monthly rent

1.2 The following constraints should be enforced.

- a) A supervisor cannot supervise more than three rental properties at a time.
- b) A lease agreement should be for a minimum of six months and a maximum of one year.
The rent for a six-month lease is 10% more than the regular rent for that property.
- c) When a lease agreement is created, the status for the property should be changed to ***leased (or not_available)***.
- d) When a rental property is removed from the list of rentals, it should also be removed from its supervisor's list.
- e) With every new lease, a 10% increase in rent should be added to the rent from the previous lease.

1.3 The following transactions are to be implemented

- 1) Generate a list of rental properties available for a specific branch (where the name of the branch is entered as input).
- 2) Generate a list of managers and for each manager, a list of supervisors under the manager and supervisors and the properties (with addresses) the supervisors supervise.
- 3) Generate a list of rental properties by a specific owner (where the owner's name and phone number are entered as input), listed in a *StrawberryField* branch (the branch name is input).
- 4) Show a listing of properties available, where the properties should satisfy the criteria (city, no of rooms and/or range for rent given as input).
- 5) Show the number of properties available for rent by branch.

- 6) Create a lease agreement (See section 1.1). The information to be entered into this agreement can be input via a Graphical User interface (See section 2.1) or from the command line.
- 7) Show a lease agreement for a renter (name or phone number is entered as input).
- 8) Show the renters who rented more than one rental property.
- 9) Show the average rent for properties managed by this Rental Management System. You can take the average of all the properties that are rented out and those available for rent in that town.
- 10) Show the names and addresses of properties whose leases will expire in the next two months (from the current date).
- 11) Show the money that is earned by the rental agency per month. This is calculated as 10% of the rent of the properties that are currently rented.