# DB Fundamental - LAB 1 Nov/21/2022

## Task ①: Intermediary Car rental Company
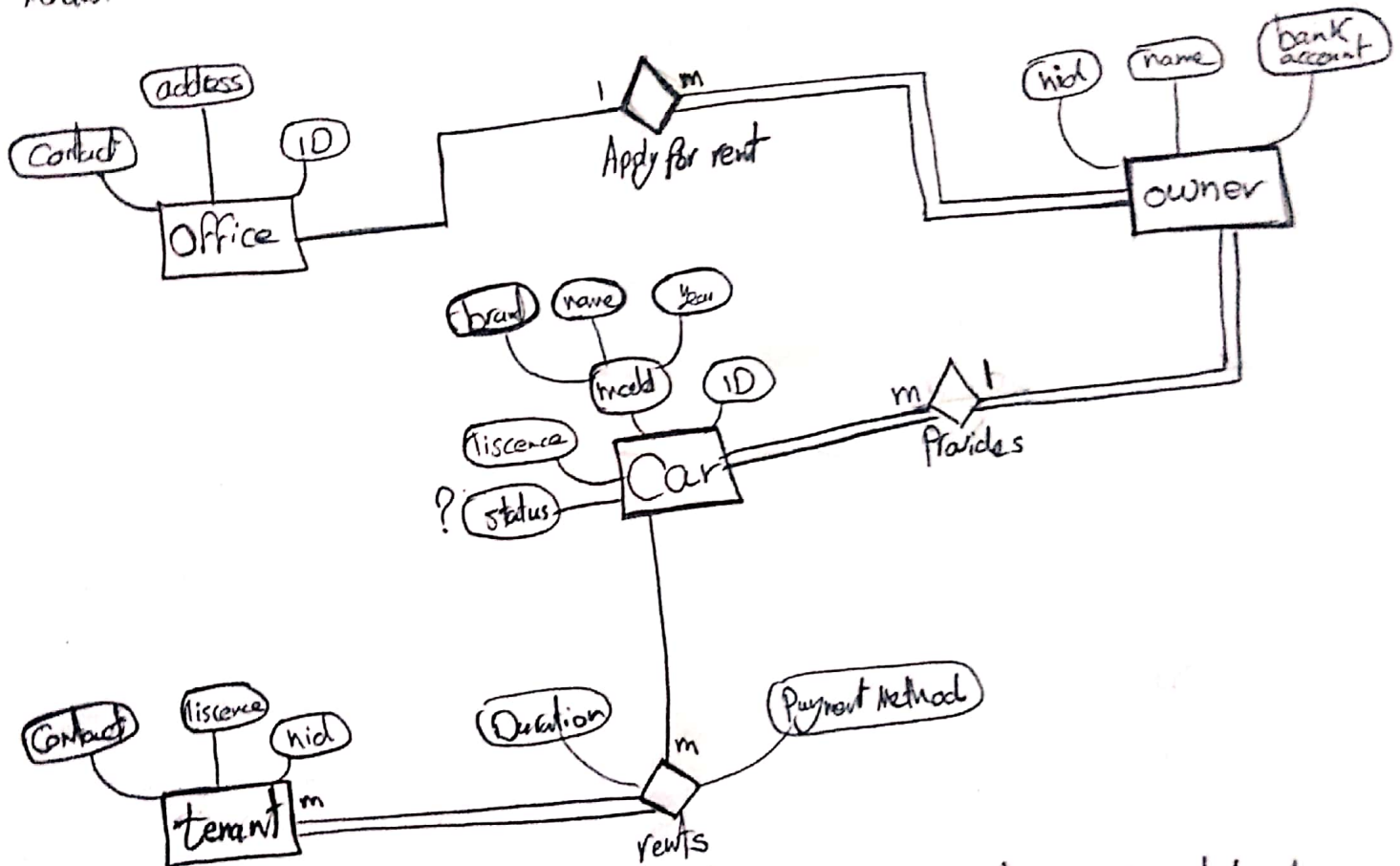
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ITI - Assuit

Business Entities:
- Office
- Owner
- Car
- Tenant

MAY          **MUST**



• Owner MUST Provide at least one car
• Car MUST be Provided by one owner

### Mapping

Office ( ID, address, Contact)

owner ( NID, Name, bank account)

tenant ( NID, liscense, Contact )

Car ( ID, liscence, status, model_name, model_brand, model_year)

Provided ( owner_ID, Car_ID)

rents ( tenant_ID, car_ID)

Apply ( owner_ID, office_ID)

# Business Entities

**Task2: Medical Analysis Laboratory**

- Branch : Code, name, address ( city, area, street ), building_no, floor_no

- Test: code, name, cost, Duration, Conditions

- Patient: id, name, age, number, DOB, gender, has_chronic_diseases

- Employee ( roles: Supervisor, subordinary
              Attributes: id, name, salary, team, duration

~~- Team~~

# Relationship sets

- Works_in (employee, branch)

- Provides (branch, test)

~~- Visits (Patient, branch)~~

- Performs (Patient, test, branch)

✓ Manages (Employee, branch)

- Reports_to (Employee)
  (Supervisor id, subordinary_id)

# Participation Constraints

- (works in) Employee → branch (totally)
- branch → Employee (totally)

- ~~Manages~~
- (manage) Employee → branch (Partially)

- branch (manage) → Employee (totally)

# Key Constraints

- Employee - branch ⟹ Many-to-one
  ↳ in the Works_in relationship set on employee entity will appear exactly once but branch entity will appear several

• ~~Employee branch~~ (Manager) one-to-one

Each Employee Entity will appear only once in the relationship set

(P) = Means i have a question here

**Employee**
- id
- name
- Salary
- work hours

Super / sub — Reports_to (P)

Manages 1 — 1

works_in 1 — M

**Branch**
- Code
- name
- address (area, city, street)
- building_No
- Floor_No

Provides M — M (P)

**Patient**
- id
- name
- gender
- age
- DOB
- has-chronic diseases

Performs

**Test**
- Code
- name
- cost
- Duration
- Condition