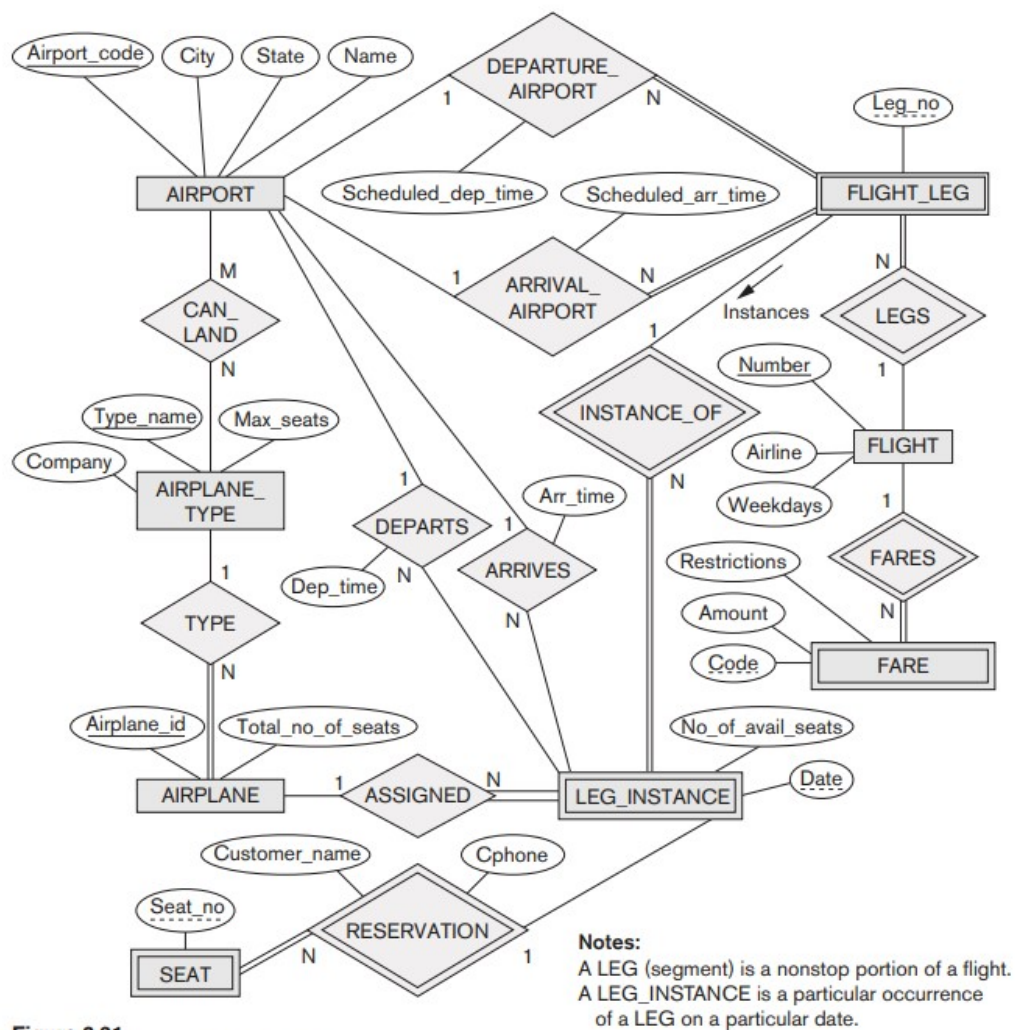


## COMP2411 Fall 2023 Class Exercise 2 (ERD)

Student Name: \_\_\_\_\_

Student ID: \_\_\_\_\_

1. Answer the following questions with the ERD provided below.

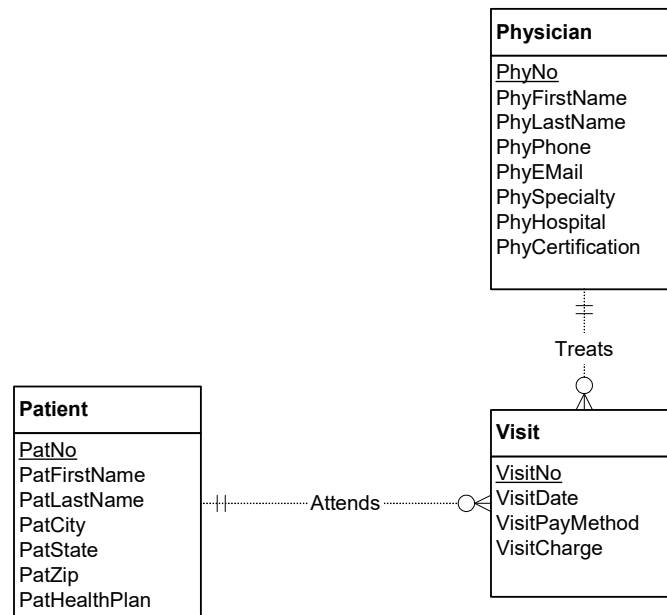


**Figure 3.21**  
An ER diagram for an AIRLINE database schema.

- How many entities are in the diagram?
- Which entity is a weak entity?
- How many 1-N relationships in the diagram?
- What is the primary key of FARE?
- Provide a description of the CAN\_LAND relationship.
- Provide a description of the ASSIGNED relationship.

2. Draw an ERD containing the *Patient*, *Physician*, and the *Visit* entity types connected by 1-M relationships from *Patient* to *Visit* and *Physician* to *Visit*. Choose appropriate names for the relationships. For the *Patient* entity type, add attributes *PatNo* (primary key), *PatFirstName*, *PatLastName*, *PatStreet*, *PatCity*, *PatState*, *PatZip*, and *PatHealthPlan*. For the *Physician* entity type, add attributes *PhyNo* (primary key), *PhyFirstName*, *PhyLastName*, *PhySpecialty*, *PhyPhone*, *PhyEmail*, *PhyHospital*, and *PhyCertification*. For the *Visit* entity type, add attributes for the *VisitNo* (primary key), *VisitDate*, *VisitPayMethod* (cash, check, or credit card), and *VisitCharge*.

**Ans:**



3. Extend the ERD in the previous problem with the *Nurse*, the *Item*, and the *VisitDetail* entity types connected by 1-M relationships from *Visit* to *VisitDetail*, *Nurse* to *VisitDetail*, and *Item* to *VisitDetail*. *VisitDetail* is a weak entity with the 1-M relationship from *Visit* to *VisitDetail* an identifying relationship. Choose appropriate names for the relationships. For the *Item* entity type, add attributes *ItemNo* (primary key), *ItemDesc*, *ItemPrice*, and *ItemType*. For the *Nurse* entity type, add attributes *NurseNo* (primary key), *NurseFirstName*, *NurseLastName*, *NurseTitle*, *NursePhone*, *NurseSpecialty*, and *NursePayGrade*. For the *VisitDetail* entity type, add attributes for the *DetailNo* (part of the primary key) and *DetailCharge*. If you are using the ER Assistant of another drawing tool that supports data type specification, choose appropriate data types for the attributes based on your common knowledge.

