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**Question 2:**

**Problem 1:**

1. **Find Entities, key Attributes and relative Attributes**

* Doctor : doctor\_id, doctor\_name, hired\_date, speciality
* Patient: patient\_id, patient\_name
* Treatment: doctor\_id, patient\_id, treatment\_date, treatment\_duration, treament\_result

1. **Finding Relationships**

* Hospital—Doctor : Employs
* Hospital—Patient: Admit
* Hospital—Treament: Save
* Doctor—Patient : Treat

1. **Weak Enitities, Weak Relationships**

* **Weak Entity: Treatment**
* Doctor—Treatment
* Patient-Treatment

1. **Draw ER model**

**A diagram of a company

Description automatically generated**

**Problem 2:**

1. **Find Entities, key Attributes and relative Attributes**

* University
* Faculty: faculty\_code, faculty\_name
* Class: class\_code, class\_name, wholesale\_number
* Student: student\_id, student\_name, student\_birth, gender, address,graduation point
* Subject: subject\_code, name, number of credits
* Library Card: Card Number, Issue Date, Expiration Date
* Exam: Student\_id, Subject\_id ,(Weak entity)

1. **Finding Relationships**

* University—Faculities: 1 to many (Own)
* Faculity—Class: 1 to many (Own)
* Student—Subject: many to many🡪Score (weak relationship) (Study)
* Class—Student : 1 to many (Contains)
* Student—LibraryCard: 1 to 1(Own)

1. **Draw ER model**

**A diagram of a company

Description automatically generated**

**Problem 3:**

1. **Find Entities, key Attributes and relative Attributes**

* Hotel
* Room: Code, Name, Price By Week, Price By Day
* Floor: Code, Name
* Guest: Identity Card, Name, Phone Number
* Service: Code, Name, Amount to Pay
* Room Payment: Invoice Code, Identity Card Code, Customer’s Name, Dates of Stay, Room Code, Amount of Pay, Service name, service fee (Weak Attribute)

1. **Finding Relationships**

* Hotel—Room: 1 to many (Own)
* Hotel—Floor: 1 to many (Own)
* Floor--Room: 1 to many (Own)
* Guest—Room: 1 to 1 (Stay) ----Payment (Weak Relationship)
* Room—Service: 1 to many (Attach)

1. **Draw ER model**

A diagram of a company

Description automatically generated