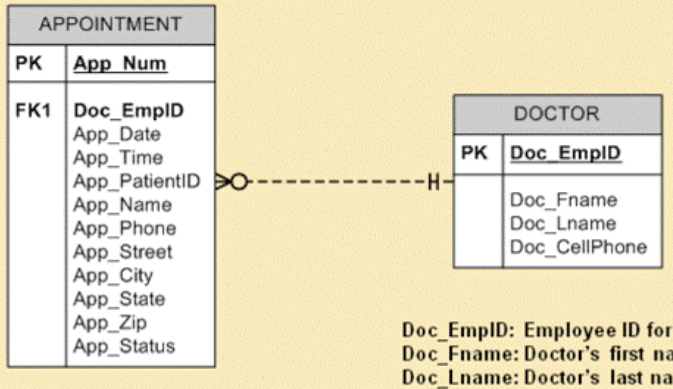
Ch6 Ungraded Practice
Ch6 Normalization of Database Tables

1. Using the descriptions of the attributes given in the figure, convert the ERD shown in Figure P6.1 into a dependency diagram that is in at least 3NF.

FIGURE P6.1 Appointment ERD for Problem 1



Doc_EmpID: Employee ID for the doctor.
Doc_Fname: Doctor's first name.
Doc_Lname: Doctor's last name.
Doc_CellPhone: Doctor's cell phone number.

App_Num: System-generated number.
App_Date: The date of the appointment.
App_Time: The time of the appointment.
App_PatientID: The ID number of the patient.
App_Name: The name of the patient.
App_Phone: The contact phone number of the patient.
App_Street: The street address for the patient.
App_City: The city the patient lives in.
App_State: The state the patient lives in.
App_Zip: The zip code for the patient's address.
App_Status: The status of the appointment (pending, closed, cancelled)

SOURCE: Course Technology/Cengage Learning

2. To keep track of office furniture, computers, printers, and so on, the FOUNDIT Company uses the table structure shown in Table P6.5.

Table P6.5 Sample ITEM Records

Attribute Name	Sample Value	Sample Value	Sample Value
ITEM_ID	231134-678	342245-225	254668-449
ITEM_LABEL	HP DeskJet 895Cse	HP Toner	DT Scanner
ROOM_NUMBER	325	325	123
BLDG_CODE	NTC	NTC	CSF
BLDG_NAME	Nottooclear	Nottoclear	Canseefar
BLDG_MANAGER	I. B. Rightonit	I. B. Rightonit	May B. Next

a. Given that information, write the relational schema and draw the dependency diagram. Make sure that you label the transitive and/or partial dependencies.
b. Write the relational schemas and create a set of dependency diagrams that meet 3NF requirements. Rename attributes to meet the naming conventions, and create new entities and attributes as necessary.
c. Draw the Crow's Foot ERD.

3. Given the sample records in the CHARTER table shown in Table P6.11, do the following:

Table P6.11 Sample CHARTER Records

Attribute Name	Sample Value	Sample Value	Sample Value	Sample Value
CHAR_TRIP	10232	10233	10234	10235
CHAR_DATE	15-Jan-2008	15-Jan-2008	16-Jan-2008	17-Jan-2008
CHAR_CITY	STL	MIA	TYS	ATL
CHAR_MILES	580	1,290	524	768
CUST_NUM	784	231	544	784
CUST_LNAME	Brown	Hanson	Bryana	Brown
CHAR_PAX	5	12	2	5
CHAR_CARGO	235 lbs.	18,940 lbs.	348 lbs.	155 lbs.
PILOT	Melton	Chen	Henderson	Melton
COPILOT		Henderson	Melton	
FLT_ENGINEER		O'Shaski		
LOAD_MASTER		Benkasi		
AC_NUMBER	1234Q	3456Y	1234Q	2256W
MODEL_CODE	PA31-350	CV-580	PA31-350	PA31-350
MODEL_SEATS	10	38	10	10
MODEL_CHG_MILE	$2.79	$23.36	$2.79	$2.79

a. Write the relational schema and draw the dependency diagram for the table structure. Make sure that you label all dependencies. CHAR_PAX indicates the number of passengers carried. The CHAR_MILES entry is based on round-trip miles, including pickup points. (*Hint*: Look at the data values to determine the nature of the relationships. For example, note that employee Melton has flown two charter trips as pilot and one trip as copilot.)

b. Decompose the dependency diagram in Problem 11a to create table structures that are all in 3NF and write the relational schema. Make sure that you label all dependencies.