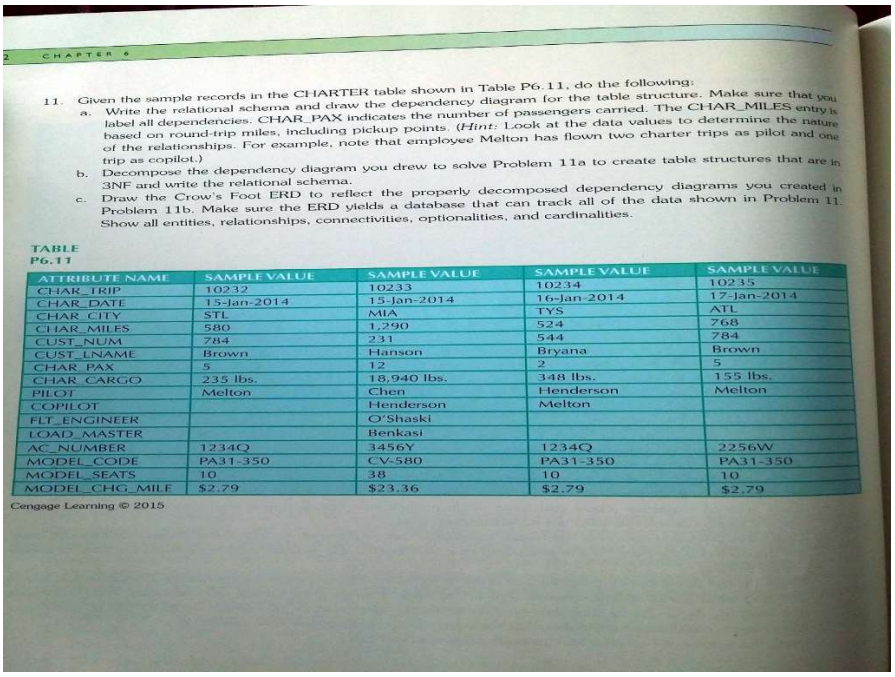
Question: Assignment: Problem # 11 from Chapter # 6. Normalize a set o...

Assignment: Problem # 11 from Chapter # 6.

Normalize a set of data to 3rd normal form by creating relational schemas, dependency diagrams and an Entity Relationship Diagram (crow's foot notation). Be sure to complete each letter (a thru c) for the problem. The ERD for letter c must be completed with the use of Microsoft Visio or using another method that still shows all the necessary information (ex: cardinalities, keys, etc.).

Notes: Relational schema is defined in section 4.1.2 in chapter 4 of the textbook. Dependency diagram is defined in section 6.3 in chapter 6 of the textbook. An example of a crow's foot ERD can be found in chapter 4, figure 4.35.



CHAPTER 6

11. Given the sample records in the CHARTER table shown in Table P6.11, do the following:
   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 you drew to solve Problem 11a to create table structures that are in 3NF and write the relational schema.
   c. Draw the Crow's Foot ERD to reflect the properly decomposed dependency diagrams you created in Problem 11b. Make sure the ERD yields a database that can track all of the data shown in Problem 11. Show all entities, relationships, connectivities, optionalities, and cardinalities.

TABLE P6.11

ATTRIBUTE NAME	SAMPLE VALUE	SAMPLE VALUE	SAMPLE VALUE	SAMPLE VALUE
CHAR_TRIP	10232	10233	10234	10235
CHAR_DATE	15-Jan-2014	15-Jan-2014	16-Jan-2014	17-Jan-2014
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

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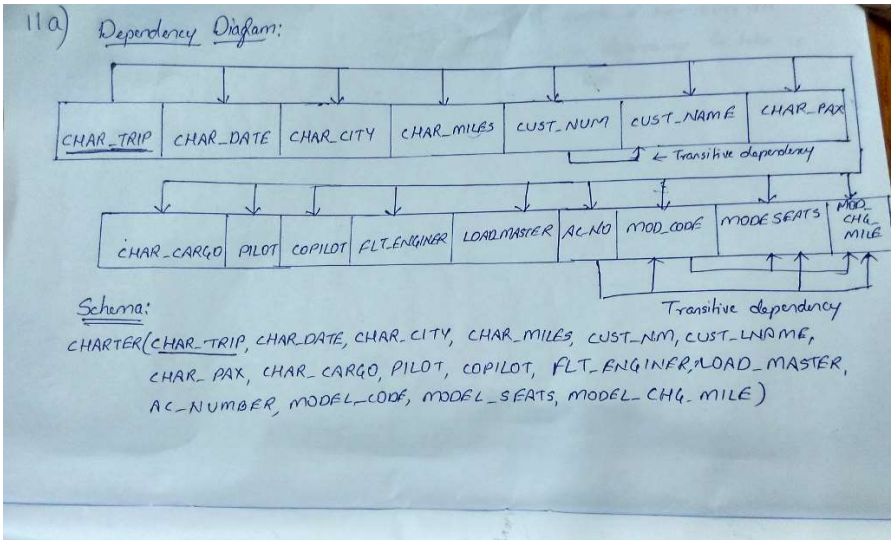
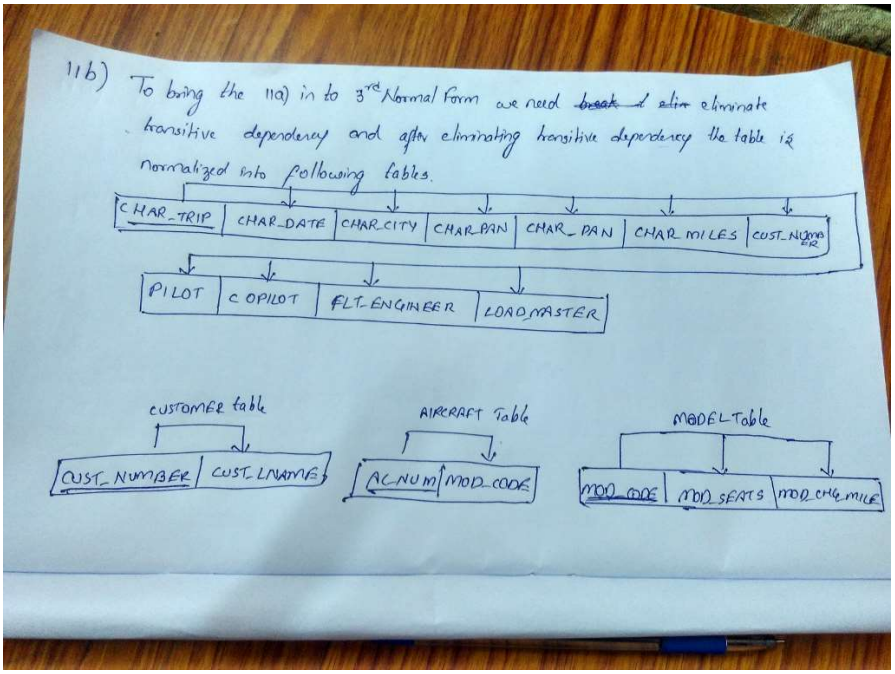
Expert Answer

Rafi Shaik answered this
41 answers

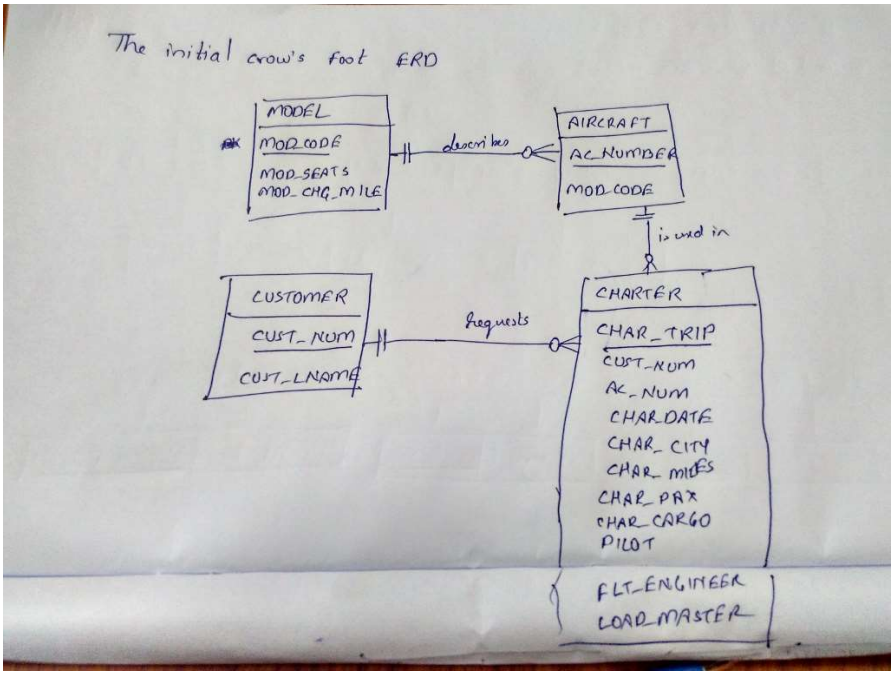
Was this answer helpful? 1 0



b)



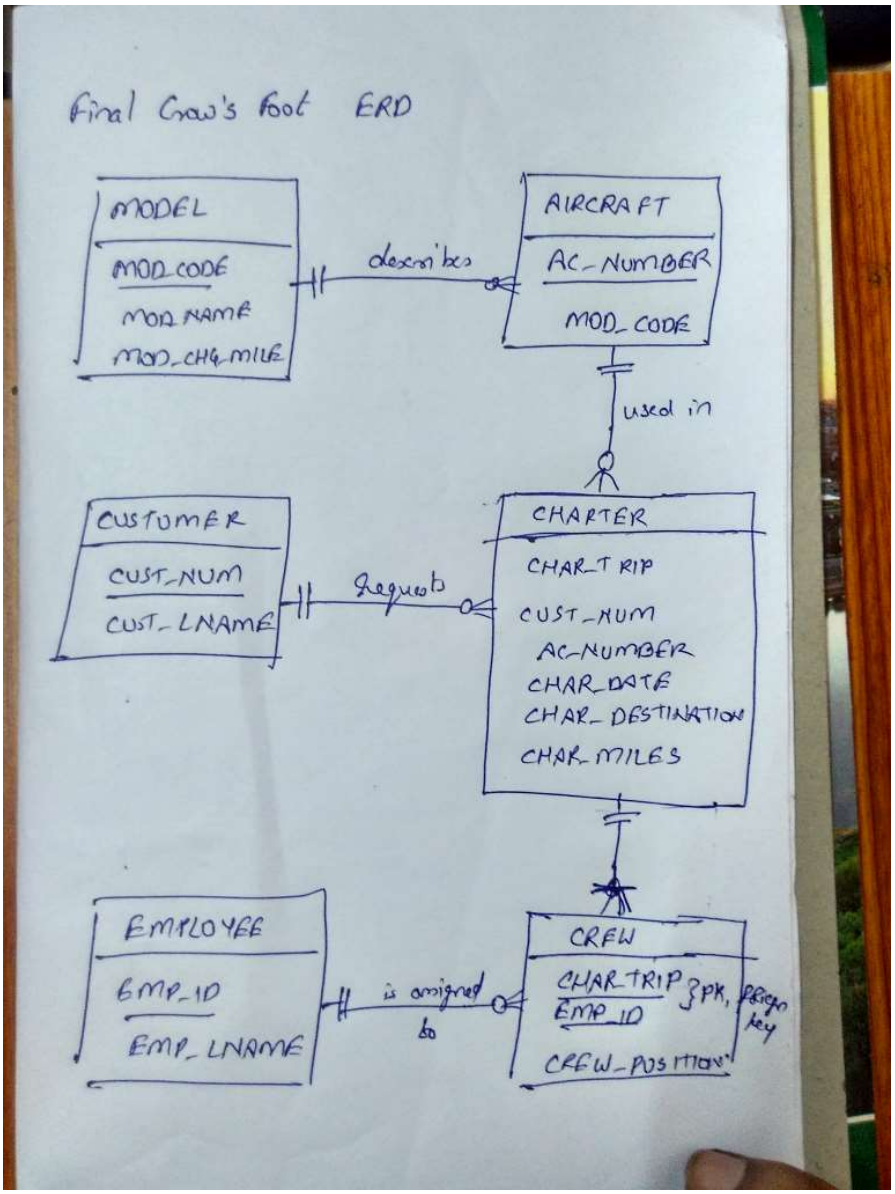
C)



There are some flaws in the above desing

1.The additional crewmembers such as Copilots, Loadmasters and flight engineers are not assigned to the flight, the CHARTER table will include many nulls.
2.The inclusion of COPILOT, FLT_ENGINEER and LOAD_MASTER also produce synonyms in the CHARTER table.
3.As the aircraft used in the charter flights become larger and more complex. crews become larger, thus producing more synonyms and more potential nulls.

This problems associated with above ERD are eliminated through the compostie entity named CREW in below ERD. This modification makes it possible to assign any number of crewmembers. To ensure that the crewmembers are properly qualified a job attribute can be added to EMPLOYEE entity and the applications software can then assign crewmembers based on job classifications such as pilot, loadmaster, flight attendent etc. Because only some employees are qualified as crewmembers. CREW is optional to EMPLOYEE. But each crewmember must be an employee. So EMPLOYEE is mandatory to CREW.



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Q: Assignment: Problem # 11 from Chapter # 6. Normalize a set of data to 3rd normal form by creating relational schemas, dependency diagrams and an Entity Relationship Diagram (crow's foot notation). Be sure to complete each letter (a thru c) for the problem. The ERD for letter c must be completed with the use of Microsoft Visio or using another method that still shows all the...

A: See answer 100% (1 rating)

Questions viewed by other students

Q: Can you please help me solve the 2 ERD problems

A: See answer 100% (1 rating)

Q: This lab will introduce you to the processes involved in defining one of the key components of a data model; the relationship diagram (RD). In this lab, you will draw a relationship diagram for two of the steps shown. Keep in mind when you are trying to decide which side of the relationship should be the "one" side and which should be the "many" that you must first decide which side...