

Assignment 6

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Problem

Suppose we already have the following E-R diagram for Grand Travel Airlines from Assignment , convert this E-R diagram to a database.

1.Specify all tables. A table should be represented in the format as

TABLENAME(Column1, Column2, Column3, Column4)

Note: primary key and foreign keys should be annotated using underline and italic font .

2.Specify the attribute properties for each table. For each table in Question 1, you should draw a form to specify the properties, including Column Name, Data Type, Key, Required, and Remarks.

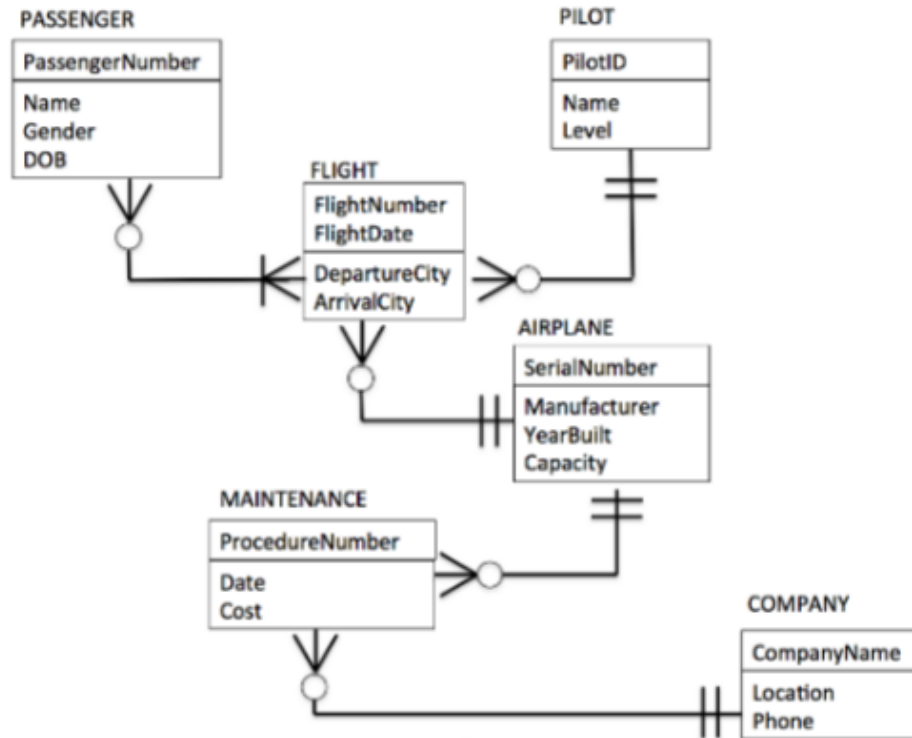


Figure 1: E-R diagram of the airline company database.

1.

PILOT(PilotID, Name, Level)

AIRPLANE(SerialNumber, Manufacturer, YearBuilt, Capacity)

FLIGHT(FlightNumber, FlightDate, DepartureCity, ArrivalCity, PilotID, SerialNumber)

PASSENGER(PassengerNumber, Name, Gender, DOB)

BOOKING(BookingID, PassengerNumber, FlightNumber, FlightDate)

COMPANY(CompanyName, Location, Phone)

MAINTENANCE(ProcedureNumber, Date, Cost, SerialNumber, CompanyName)

2.

PILOT				
Column Name	Data Type	Key	Required	Remarks
PilotID	INT	Primary Key	Yes	Identity(1,1)
Name	CHAR(100)		Yes	
Level	CHAR(20)		Yes	

AIRPLANE				
Column Name	Data Type	Key	Required	Remarks
SerialNumber	INT	Primary Key	Yes	Identity(1,1)
Manufacturer	CHAR(100)		Yes	
YearBuilt	DATE		Yes	
Capacity	INT		Yes	

FLIGHT				
Column Name	Data Type	Key	Required	Remarks
FlightNumber	INT	Primary key	Yes	
FlightDate	DATE	Primary key	Yes	
DepartureCity	CHAR(100)		Yes	
ArrivalCity	CHAR(100)		Yes	
PilotID	INT	Foreign Key	Yes	
SerialNumber	INT	Foreign Key	Yes	References PILOT (PilotID)
				References AIRPLANE (SerialNumber)

PASSENGER				
Column Name	Data Type	Key	Required	Remarks
PassengerNumber	INT	Primary Key	Yes	Identity(1,1)
Name	CHAR(100)		Yes	
Gender	CHAR(10)		Yes	
DOB	DATE		Yes	

BOOKING				
Column Name	Data Type	Key	Required	Remarks
BookingID	INT	Primary Key	Yes	Identity(1,1)
PassengerNumber	INT	Foreign Key	Yes	References PASSENER (PassengerNumber)
FlightNumber	INT	Foreign Key	Yes	References FLIGHT (FlightNumber)
FlightDate	DATE	Foreign Key	Yes	References FLIGHT (FlightDate)

COMPANY				
Column Name	Data Type	Key	Required	Remarks
CompanyName	CHAR(100)	Primary Key	Yes	
Location	CHAR(100)		Yes	
Phone	CHAR(20)		Yes	

MAINTENANCE				
Column Name	Data Type	Key	Required	Remarks
ProcedureNumber	INT	Primary Key	Yes	Identity(1,1)
Date	DATE		Yes	
Cost	Numeric(8,2)		Yes	
SerialNumber	INT	Foreign Key	Yes	References AIRPLANE (SerialNumber)
CompanyName	Char(100)	Foreign Key	Yes	References COMPANY (CompanyName)