Assignment--Normalization

A company called FastCabs provides a taxi service to clients. The table shown in Figure 1 displays some details of client bookings for taxis. Assume that a taxi driver is assigned to a single taxi but a taxi can be assigned to one or more drivers.

JobID	JobDate Time	driverID	driver Name	taxiID	clientID	clientName	jobPickUpAddress
1	25/07/14 10.00	D1	Joe Bull	T1	C1	Anne Woo	1 Storrie Rd, Paisley
2	29/07/14 10.00	D1	Joe Bull	T1	C1	Anne Woo	1 Storrie Rd, Paisley
3	30/07/14 11.00	D2	Tom Win	T2	C1	Anne Woo	3 High Street, Paisley
4	2/08/14 13.00	D3	Jim Jones	T3	C2	Mark Tin	1A Lady Lane, Paisley
5	2/08/14 13.00	D4	Steven Win	T1	C3	John Seal	22 Red Road, Paisley
6	25/08/14 10.00	D2	Tom Win	T2	C4	Karen Bow	17 High Street, Paisley

Figure 1: Table displaying sample data for FastCabs

a) Identify the functional dependencies that exist between the columns of the table.
   a. JobID -> JobDateTime, driverID, driverName, taxiID, ClentID, clentName, jobPickupAddress
   b. driverID -> driverName, taxiID
   c. clientID ->clientName
b) Identify the primary key.
   a. JobID is the primary key
c) Determine the Normal Form of the table based on the primary key you identified.
   a. Since there are no duplicate records, this passes 1NF.
      Since partial dependency exists, this fails 2NF.
      Since 2NF fails, so does 3NF.
d) Normalize the table to 3NF. You should give the explanation when you decompose a table.

JobID	**JobDateTime**	**driverID**	**ClientID**	**jobPickUpAddress**
1	25/07/14 10:00	D1	C1	1 Storrie Rd, Paisley
2	29/07/14 10:00	D1	C1	1 Storrie Rd, Paisley
3	30/07/14 11:00	D2	C1	3 High St, Paisley
4	2/08/14 13:00	D3	C2	1A Lady Lane, Paisely
5	2/08/14 13:00	D4	C3	22 Red Rd, Paisley
6	25/08/14 10:00	D2	C4	17 High St, Paisely

driverID	**driverName**	**taxiID**
D1	Joe Bull	T1
D2	Tom Win	T2
D3	Jim Jones	T3
D4	Steven Win	T1

clientID	**clientName**
C1	Anne Woo
C2	Mark Tin
C3	John Scal
C4	Karen Bow