1. DreamHome Company designed to facilitate connecting people who are interested in properties renting and the owners of these properties. Note that 'Rent' is the value of the property cost, which determined by the negotiation between the customer and the owner. Use the below data to reach the 3rd Normal Form. Show your answer steps. Start with Customer number as a PK. Ignore Page number and Date mentioned in the below bill.

DreamHome
Customer Rental Details

Page 1   Date 7-Oct-98

Customer Name John Kay   Customer Number CR76

Property Number	Property Address	Rent Start	Rent Finish	Rent	Owner Number	Owner Name
PG4	6 Lawrence St, Glasgow	1-Jul-94	31-Aug-96	350	CO40	Tina Murphy
PG16	5 Novar Dr, Glasgow	1-Sep-96	1-Sep-98	450	CO93	Tony Shaw

Customer_Rental Table

Customer_No	CName	Property_No	PAddress	RentStart	RentFinish	Rent	Owner_No	OName
CR76	John Kay	PG4	6 Lawrence St, Glasgow	1-Jul-94	31-Aug-96	350	CO40	Tina Murphy
		PG16	5 Novar Dr, Glasgow	1-Sep-96	1-Sep-98	450	CO93	Tony Shaw
CR56	Aline Stewart	PG4	6 Lawrence St, Glasgow	1-Sep-92	10-June-94	350	CO40	Tina Murphy
		PG36	2 Manor Rd, Glasgow	10-Oct-94	1-Dec-95	375	CO93	Tony Shaw
		PG16	5 Novar Dr, Glasgow	1-Jan-96	10-Aug-96	450	CO93	Tony Shaw

Zero NF:

Customer_rental (C-no, C-name, Pro-no, Pro-add, Rent-start, Rent-finish, Rent, O-no, O-name)

1NF:

Customer (C-no, C-name)

Customer_property(Pro-no, C-no (fk) , Pro-add , Rent-start , Rent-finish ,Rent , O-no ,

O-name)

2NF:

Customer (C-no, C-name)

Owner_property(Pro-no , Pro-add, O-no ,O-name)

Customer_property(C-no (fk) , Pro-no, Rent-start , Rent-finish ,Rent)

3NF:

Customer (C-no, C-name)

Owner_property(Pro-no , Pro-add, O-no (fk))

Owner(O-no ,O-name)

Customer_property(C-no (fk) , Pro-no, Rent-start , Rent-finish ,Rent)

2. The below report shows detailed information about the organization projects and the employees work for. As shown in below records; the project may have many employees; also, an employee may work for more than one project. Each job classification has a specific hourly rate (CHG/Hour). You are required to apply the 1st, 2nd and 3rd NF.

TABLE 5.1	A Sample Report Layout						
PROJ. NUM.	PROJECT NAME	EMPLOYEE NUMBER	EMPLOYEE NAME	JOB CLASS.	CHG/ HOUR	HOURS BILLED	TOTAL CHARGE
15	Evergreen	103	June E. Arbough	Elec. Engineer	$ 85.50	23.8	$ 2,011.10
		101	John G. News	Database Designer	$105.00	19.4	$ 2,037.00
		105	Alice K. Johnson*	Database Designer	$105.00	35.7	$ 3,748.50
		106	William Smithfield	Programmer	$ 35.75	12.6	$ 450.45
		102	David H. Senior	Systems Analyst	$ 96.75	23.8	$ 2,302.65
				Subtotal			$10,549.70
18	Amber Wave	114	Annelise Jones	Applications Designer	$ 48.10	24.6	$ 1,183.26
		118	James J. Frommer	General Support	$ 18.36	45.3	$ 831.71
		104	Anne K. Ramoras*	Systems Analyst	$ 96.75	32.4	$ 3,135.70
		112	Darlene M. Smithson	DSS Analyst	$ 45.95	45.0	$ 2,021.80
				Subtotal			$ 7,172.47
22	Rolling Tide	105	Alice K. Johnson	Database Designer	$105.00	65.7	$ 6,793.50
		104	Anne K. Ramoras	Systems Analyst	$ 96.75	48.4	$ 4,682.70
		113	Delbert K. Joenbrood*	Applications Designer	$ 48.10	23.6	$ 1,135.16
		111	Geoff B. Wabash	Clerical Support	$ 26.87	22.0	$ 591.14
		106	William Smithfield	Programmer	$ 35.75	12.8	$ 457.60
				Subtotal			$13,660.10
25	Starflight	107	Maria D. Alonzo	Programmer	$ 35.75	24.6	$ 879.45
		115	Travis B. Bawangi	Systems Analyst	$ 96.75	45.8	$ 4,431.15
		101	John G. News*	Database Designer	$105.00	56.3	$ 5,911.50
		114	Annelise Jones	Applications Designer	$ 48.10	33.1	$ 1,592.11
		108	Ralph B. Washington	Systems Analyst	$ 96.75	23.6	$ 2,283.30
		118	James J. Frommer	General Support	$ 18.36	30.5	$ 559.98
		112	Darlene M. Smithson	DSS Analyst	$ 45.95	41.4	$ 1,902.33
				Subtotal			$17,559.02
				Total			$48,942.09

Note: * indicates project leader.

Zero NF:

Proj(P-no, p-name, emp-no, emp-name, j-class, C/hour, hours)

1NF:

project(<u>P-no</u>,p-name)

employee_p(<u>emp-no,p-no(fk),</u>emp-name, j-class, C/hour, hours)

2NF:

project(<u>p-no</u>,p-name)

employee(<u>emp-no</u>, emp-name,j-class, C/hour)

employee_project(<u>emp-no(fk),p-no(fk)</u>, hours)

3NF:

project(<u>p-no</u>,p-name)

employee(<u>emp-no</u>, emp-name,j-class(fk), C/hour)

job(<u>j-class</u>, C/hour)

employee_project(<u>emp-no(fk),p-no(fk)</u>, hours)