

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.

| Page 1 | | DreamHome Customer Rental Details | | | 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_RentalTable | | | | | | | | |
|----------------------|---------------|-------------|------------------------|-----------|------------|------|----------|-------------|
| 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 |

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 | Amher Wave | 114 | Annelise Jones | Applications Designer | \$ 48.10 | 25.6 | \$ 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 | \$ 2,021.00 |
| | | | | 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 | Starlight | 107 | Maria D. Munoz | Programmer | \$ 35.75 | 25.6 | \$ 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 | | | \$17,559.82 |
| | | | | Total | | | \$48,942.09 |

Note: * indicates project leader.