**Normalization Exercise**

**Unnormalized Form: question**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Client No** | **cName** | **propertyNo** | **pAddress** | **rentStart** | **rentFinish** | **rent** | **ownerNo** | **oName** |
| CR76 | John Kay | PG4 | 6 Lawrence St., Glasgow | 1-Jul-00 | 31-Aug-01 | 350 | CO40 | Tina Murphy |
| PG16 | 5 Novar Dr., Glasgow | 1-Sep-02 | 1-Sep-02 | 450 | CO93 | Tony Shaw |
| CR56 | Aline Stewatt | PG4 | 6 Lawrence St., Glasgow | 1-Sep-99 | 10-Jun-00 | 350 | CO40 | Tina Murphy |
| PG36 | 2 Manor Rd., Glasgow | 10-Oct-00 | 1-Dec-01 | 370 | CO93 | Tony Shaw |
| PG16 | 5 Novar Dr., Glasgow | 1-Nov-02 | 1-Aug-03 | 450 | CO93 | Tony Shaw |

**1NF Form:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ClientNo** | **cName** | **propertyNo** | **pAddress** | **rentStart** | **rentFinish** | **rent** | **ownerNo** | **oName** |
| CR76 | John Kay | PG4 | 6 Lawrence St., Glasgow | 1-Jul-00 | 31-Aug-01 | 350 | CO40 | Tina Murphy |
| CR76 | John Kay | PG16 | 5 Novar Dr., Glasgow | 1-Sep-02 | 1-Sep-02 | 450 | CO93 | Tony Shaw |
| CR56 | Aline Stewatt | PG4 | 6 Lawrence St., Glasgow | 1-Sep-99 | 10-Jun-00 | 350 | CO40 | Tina Murphy |
| CR56 | Aline Stewatt | PG36 | 2 Manor Rd., Glasgow | 10-Oct-00 | 1-Dec-01 | 370 | CO93 | Tony Shaw |
| CR56 | Aline Stewatt | PG16 | 5 Novar Dr., Glasgow | 1-Nov-02 | 1-Aug-03 | 450 | CO93 | Tony Shaw |

**2NF Form:**

**Client Table:**

|  |  |
| --- | --- |
| **ClientNo** | **cName** |
| CR76 | John Kay |
| CR56 | Aline Stewatt |

**Property Table:**

|  |  |  |  |
| --- | --- | --- | --- |
| **propertyNo** | **pAddress** | **rent** | **ownerNo** |
| PG4 | 6 Lawrence St., Glasgow | 350 | CO40 |
| PG16 | 5 Novar Dr., Glasgow | 450 | CO93 |
| PG36 | 2 Manor Rd., Glasgow | 370 | CO93 |

**Rent Table:**

|  |  |  |  |
| --- | --- | --- | --- |
| **ClientNo** | **propertyNo** | **rentStart** | **rentFinish** |
| CR76 | PG4 | 1-Jul-00 | 31-Aug-01 |
| CR76 | PG16 | 1-Sep-02 | 1-Sep-02 |
| CR56 | PG4 | 1-Sep-99 | 10-Jun-00 |
| CR56 | PG36 | 10-Oct-00 | 1-Dec-01 |
| CR56 | PG16 | 1-Nov-02 | 1-Aug-03 |

**3NF Form:**

**Client Table:**

|  |  |
| --- | --- |
| **ClientNo** | **cName** |
| CR76 | John Kay |
| CR56 | Aline Stewatt |

**Property Table:**

|  |  |  |  |
| --- | --- | --- | --- |
| **propertyNo** | **pAddress** | **rent** | **ownerNo** |
| PG4 | 6 Lawrence St., Glasgow | 350 | CO40 |
| PG16 | 5 Novar Dr., Glasgow | 450 | CO93 |
| PG36 | 2 Manor Rd., Glasgow | 370 | CO93 |

**Rent Table:**

|  |  |  |  |
| --- | --- | --- | --- |
| **ClientNo** | **propertyNo** | **rentStart** | **rentFinish** |
| CR76 | PG4 | 1-Jul-00 | 31-Aug-01 |
| CR76 | PG16 | 1-Sep-02 | 1-Sep-02 |
| CR56 | PG4 | 1-Sep-99 | 10-Jun-00 |
| CR56 | PG36 | 10-Oct-00 | 1-Dec-01 |
| CR56 | PG16 | 1-Nov-02 | 1-Aug-03 |

**Owner Table:**

|  |  |
| --- | --- |
| **ownerNo** | **oName** |
| CO40 | Tina Murphy |
| CO93 | Tony Shaw |