Normalization

UNF:

ClientRental (<u>clientNo</u>, <u>propertyNo</u>, cName, pAddress, rentStart, rentFinish, rent, ownerNo, oName)

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

1NF:

ClientRental (<u>clientNo</u>, <u>propertyNo</u>, cName, pAddress, rentStart, rentFinish, rent, ownerNo, oName)

ClientNo	propertyNo	cName	pAddress	rentStart	rentFinish	rent	ownerNo	oName
CR76	PG4	John Kay	6 lawrence St,Glasgow	1-Jul-00	31-Aug-01	350	CO40	Tina Murphy
CR76	PG16	John Kay	5 Novar Dr, Glasgow	1-Sep-02	1-Sep-02	450	CO93	Tony Shaw
CR56	PG4	Aline Stewart	6 lawrence St,Glasgow	1-Sep-99	10-Jun-00	350	CO40	Tina Murphy

| CR56 | PG36 | Aline Stewart | 2 Manor Rd, Glasgow | 10-Oct-00 | 1-Dec-01 | 370 | CO93 | Tony Shaw |
| CR56 | PG16 | Aline Stewart | 5 Novar Dr, Glasgow | 1-Nov-02 | 1-Aug-03 | 450 | CO93 | Tony Shaw |

2NF:

fd1   clientNo, propertyNo → rentStart, rentFinish   (Primary Key)
fd2   clientNo → cName   (Partial dependency)
fd3   propertyNo → pAddress, rent, ownerNo, oName   (Partial dependency)
fd4   ownerNo → oName   (Transitive Dependency)
fd5   clientNo, rentStart → propertyNo, pAddress, rentFinish, rent, ownerNo, oName
    (Candidate key)
fd6   propertyNo, rentStart → clientNo, cName, rentFinish   (Candidate key)

Client (clientNo, cName)

ClientNo	cName
CR76	John Kay
CR56	Aline Stewart

Rental (clientNo, propertyNo, rentStart, rentFinish)

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

PropertyOwner (propertyNo, pAddress, rent, ownerNo, oName)

propertyNo	pAddress	rent	ownerNo	oName
PG4	6 lawrence St,Glasgow	350	CO40	Tina Murphy
PG16	5 Novar Dr, Glasgow	450	CO93	Tony Shaw
PG36	2 Manor Rd, Glasgow	370	CO93	Tony Shaw

3NF:

Client
fd2   clientNo → cName   (Primary Key)

Rental
fd1   clientNo, propertyNo → rentStart, rentFinish   (Primary Key)
fd5   clientNo, rentStart → propertyNo, rentFinish   (Candidate key)
fd6   propertyNo, rentStart → clientNo, rentFinish   (Candidate key)

PropertyOwner
fd3   propertyNo → pAddress, rent, ownerNo, oName   (Primary Key)
fd4   ownerNo → oName   (Transitive Dependency)

Client (clientNo, cName)

ClientNo	cName
CR76	John Kay
CR56	Aline Stewart

Rental (clientNo, propertyNo, rentStart, rentFinish)

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

PropertyOwner (propertyNo, pAddress, rent, ownerNo)

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

Owner (ownerNo, oName)

ownerNo	oName
CO40	Tina Murphy
CO93	Tony Shaw

BCNF:

ClientNo	interviewDate	interviewTime	staffNo	roomNo
CR76	13-May-02	10.30	SG5	G101
CR76	13-May-02	12.00	SG5	G101
CR74	13-May-02	12.00	SG37	G102
CR56	1-Jul-02	10.30	SG5	G102

fd1   clientNo, interviewDate → interviewTime, staffNo, roomNo   (Primary Key)
fd2   staffNo, interviewDate, interviewTime → clientNo   (Candidate key)
fd3   roomNo, interviewDate, interviewTime →clientNo, staffNo   (Candidate key)
fd4   staffNo, interviewDate →roomNo   (not a candidate key)

Interview (clientNo, interviewDate, interviewTime, staffNo)

ClientNo	interviewDate	interviewTime	staffNo
CR76	13-May-02	10.30	SG5
CR76	13-May-02	12.00	SG5
CR74	13-May-02	12.00	SG37
CR56	1-Jul-02	10.30	SG5

StaffRoom(staffNo, interviewDate, roomNo)

staffNo	interviewDate	roomNo
SG5	13-May-02	G101
SG37	13-May-02	G102
SG5	1-Jul-02	G102