Edith Cowan University
CSG1207
Systems & Database Design
Assignment 1

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Contents

1   Task 1: Normalisation

Figure 1 below shows part of a spreadsheet used by a tavern which allows customers to book rooms for events and functions. Each row represents a booking.

Figure 1: Tavern Bookings

Booking #	Booking Date	Duration	Room #	Room Name	Room Capacity	Customer Phone	Customer Name
1241	12-08-21 18:30	4	3	Side Bar	15	0432514658	Sam Crocker
1242	12-08-21 18:30	4	1	Function Room 1	30	0432514658	Sam Crocker
1243	12-08-23 16:00	8	2	Function Room 2	50	0425748641	Joe Pardy
1244	12-08-24 17:00	5	2	Function Room 2	50	0485475265	Cameron West
1245	12-08-26 15:00	3	1	Function Room 1	30	0428654854	Jimbo Lawkins
1246	12-08-26 19:30	4	1	Function Room 1	30	0438924565	Pattie Forbes
1247	12-08-27 17:30	3	4	Garden Area	25	0425748641	Joe Pardy

Assumptions

- The pub currently identifies customers by their phone number

- A room cannot have multiple bookings at the same time

1.1   0NF: Unnormalised

R1 = (CustomerPhone, CustomerName, Booking#, BookingDate, Duration, Room#, RoomName, RoomCapacity)

1.2   1NF: First normal form

~~R1 = (**CustomerPhone**, CustomerName, {**Booking#**, BookingDate, Duration, Room#,RoomName, RoomCapacity})~~

R11 = (**CustomerPhone**, CustomerName)

R12 = (**Booking#**, BookingDate, Duration, Room#, RoomName, RoomCapacity, *CustomerPhone*)

1.3   2NF: Second normal form

No partial dependencies, already 2NF.

R11 = (**CustomerPhone**, CustomerName)

R12 = (**Booking#**, BookingDate, Duration, Room#, RoomName, RoomCapacity, *CustomerPhone*)

1.4   3NF: Third normal form

R11 = (**CustomerPhone**, CustomerName)

R12 = (**Booking#**, BookingDate, Duration, Room#, RoomName, RoomCapacity, CustomerPhone)

R121 = (**Booking#**, BookingDate, Duration, *Room#*, *CustomerPhone*)

R122 = (**Room#**, RoomName, RoomCapacity)

1.5   Named relations

Customer = (**CustomerPhone**, CustomerName)

Booking = (**Booking#**, BookingDate, Duration, *Room#*, *CustomerPhone*)

Room = (**Room#**, RoomName, RoomCapacity)