

CM1603 Database Systems

Week 9

Tutorial 7 – Data Normalization

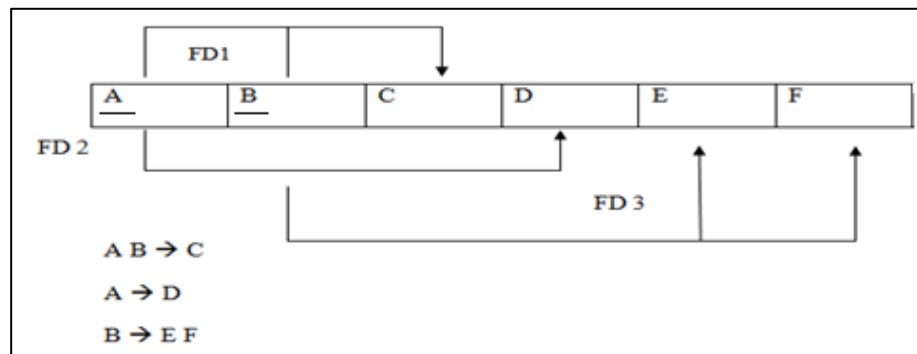
Task 1

Identify the current normal forms of the relations given below and justify the reasons. If the relation is not normalized convert up to 3NF by clearly indicating the steps.

Note:

- Write the Relational Schema and identify the repeating groups if applicable.
- Identify a suitable Primary Key and Dependencies if it is not given.
- Make suitable assumptions if required.

Exercise 1



Exercise 2

Appt No	Appt Date	Appt Time	Planned Duration	Appt Type	Patient ID	First Nm	Last Nm	Phone	Doctor ID	Doctor Nm
1	12/1/2015	3:00 AM	1.00	Physical	466927	Lisa	Garcia	562-3456	C678	Chapman
2	12/1/2015	3:00 AM	0.25	Shot	456789	Sue	Carey	432-1234	A528	Lopez
3	12/1/2015	3:15 AM	0.50	Flu	194756	Brandon	Pierre	432-7877	S626	Smith
4	12/2/2015	10:00 AM	0.50	Migraine	329657	Marcus	Schwartz	239-5502	A528	Lopez
5	12/2/2015	10:15 AM	0.25	Shot	987453	Mike	Jones	456-0202	G123	Gray
6	12/2/2015	10:30 AM	0.25	Shot	384788	Tonya	Johnson	432-8806	S626	Smith
7	12/2/2015	10:45 AM	0.50	Flu	438754	Iliana	Hnatt	823-4303	C678	Chapman
8	12/2/2015	11:00 AM	1.00	Physical	345875	Carla	Basich	857-5566	A528	Lopez
9	12/3/2015	10:30 AM	1.00	Physical	466927	Lisa	Garcia	562-3456	C678	Chapman
10	12/3/2015	9:00 AM	0.50	Migraine	345875	Carla	Basich	857-5666	C678	Chapman

Exercise 3

Matric_no	Name	Date_of_birth	Subject	Grade
960100	Smith, J	14/11/1977	Databases	C
960100	Smith, J	14/11/1977	Soft_Dev	A
960100	Smith, J	14/11/1977	ISDE	D
960105	White, A	10/05/1975	Soft_Dev	B
960105	White, A	10/05/1975	ISDE	B
960120	Moore, T	11/03/1970	Databases	A
960120	Moore, T	11/03/1970	Soft_Dev	B
960120	Moore, T	11/03/1970	Workshop	C
960145	Smith, J	09/01/1972	Databases	B
960150	Black, D	21/08/1973	Databases	B
960150	Black, D	21/08/1973	Soft_Dev	D
960150	Black, D	21/08/1973	ISDE	C
960150	Black, D	21/08/1973	Workshop	B

Task 2

Convert the following unnormalized relations into 3NF.

Note:

- Write the Relational Schema and identify the repeating groups if applicable.
- Identify a suitable Primary Key and Dependencies if it is not given.
- Make suitable assumptions if required.

Exercise 1

LIBRARY (Branch#, Branch_Addr, {ISBN, Title, Author, Publisher, Num_copies})

Exercise 2

DOCTOR (Doctor#, DoctorName, Secretary, {Patient#, PatientName, PatientDOB, PatientAddress, {Prescription#, Drug, Date, Dosage}})

Exercise 3

<u>Meeting Attendance Form</u>		
Meeting #: 5896	Date / Time: 07/09/10 14:00	Room: 13A
Project Code: DV201 Project Title: <u>WestCorp Mining CMS</u>		
Meeting Topic: <i>Weekly Project Status Meeting</i>		
<u>Attendees</u>		
Staff #	Staff Name	Department
10524	Troy <u>Buzzwood</u>	Administration
19457	Sam Oxford	Development
13584	Peter <u>Sockington</u>	Development
16433	Jane <u>Eltroin</u>	Development
15784	Jess <u>Partian</u>	Planning
13468	Harry Knobs	Quality Assurance
15548	Michael Hunt	Quality Assurance
Duration of Meeting: 1hr 10m		