

Assignment No.3: Normalisation

Q.1 Identify Candidate Keys in following Relations:

1. R = ABCD, F= { AB \rightarrow C, BC \rightarrow D, CD \rightarrow A }
2. R = ABCD, F= { A \rightarrow BCD, C \rightarrow A }
3. R = ABCDE, F = { A \rightarrow BE, C \rightarrow BE, B \rightarrow D }
4. R = ABCDEF, F = { A \rightarrow B, B \rightarrow D, C \rightarrow D, E \rightarrow F }
5. R = ABCDE, F = { A \rightarrow C, E \rightarrow D, B \rightarrow C }

Q.2 Convert the given un-normalized relations into normalized form with 1NF, 2NF and 3NF.

1.

StudentId	StuName	CourseID	CourseName	Grade
100	Mike	112	C++	A
		111	Java	B
		222	Database	A
101	Susan	222	Database	A
		224	Graphics	B
140	Lorenzo	112	C++	A
		111	Java	B
		224	Graphics	A

UNF:

Student (StudentID, StuName, CourseID, CourseName, Grade)

2.

HEALTH HISTORY REPORT

PET ID	PET NAME	PET TYPE	PET AGE	OWNER	VISIT DATE	PROCEDURENO	PROCEDURENAME
246	ROVER	DOG	12	SAM COOK	JAN 13/2002	01 - RABIES VACCINATION	
					MAR 27/2002	10 - EXAMINE and TREAT WOUND	
					APR 02/2002	05 - HEART WORM TEST	
298	SPOT	DOG	2	TERRY KIM	JAN 21/2002	08 - TETANUS VACCINATION	
					MAR 10/2002	05 - HEART WORM TEST	
341	MORRIS	CAT	4	SAM COOK	JAN 23/2001	01 - RABIES VACCINATION	
					JAN 13/2002	01 - RABIES VACCINATION	
519	TWEEDY	BIRD	2	TERRY KIM	APR 30/2002	20 - ANNUAL CHECK UP	
					APR 30/2002	12 - EYE WASH	

UNF: Pet [pet_id, pet_name, pet_type, pet_age, owner, (visitdate, procedure_no, procedure_name)]

3. Details of Patient Dental Appointment

staffNo	dentistName	patientNo	patientName	appointment date time	surgeryNo
S1011	Tony Smith	P100	Gillian White	12-Aug-03 10.00	S10
S1011	Tony Smith	P105	Jill Bell	13-Aug-03 12.00	S15
S1024	Helen Pearson	P108	Ian MacKay	12-Sept-03 10.00	S10
S1024	Helen Pearson	P108	Ian MacKay	14-Sept-03 10.00	S10
S1032	Robin Plevin	P105	Jill Bell	14-Oct-03 16.30	S15
S1032	Robin Plevin	P110	John Walker	15-Oct-03 18.00	S13

UNF: DentalApp [staffNO, dentistName, patientNo, patientName, (appointmentdate, appointmenttime), surgeryNo]