

1. Answer:

To convert to the normal form of Boyce-Code , it is required to do a decomposition. A requirement for this normal form: Key attributes of a composite key must not depend on non-key attributes. BCNF can be used to obtain a lossless join decomposition into 3NF (typically, can stop earlier) but does not ensure dependency preservation.

2.

StudentID	Date	UnitID	Grade
St1	23.02.03	U1	4.7
St1	18.11.02	U2	5.1
St4	23.02.03	U1	4.3
St2	05.05.03	U5	4.9
St2	04.07.03	U4	5.0

UnitID	Topic	Book	TutorID	Room
U1	GMT	Deumlich	Tut1	629
U2	GIn	Zehnder	Tut3	631
U1	GMT	Deumlich	Tut1	629
U5	PhF	Dummlers	Tut3	632
U4	AVQ	SwissTopo	Tut5	621

TutorID	TutorEmail
Tut1	tut1@fnbb.ch
Tut3	Tut3@fnbb.ch
Tut1	tut1@fnbb.ch
Tut3	Tut3@fnbb.ch
Tut5	Tut5@fnbb.ch

3.

ProjectID	ProjectName	Budget
1	Project1	1 kk\$
2	Project2	1.5 kk\$

ManagerID	ProjectManager	TeamSize
1	Manager1	15
2	Manager2	12

ProjectID	ManagerID
1	1
2	2

4.

GroupID	Group	Speciality_ID
1	g1	1
2	g2	2

Speciality_ID	Speciality	Faculty
1	S1	f1
2	S2	f2

6. The three design goals are **lossless-join decompositions, dependency preserving decompositions, and minimization of repetition of information.**