Task 1

In the fifth task below, we can understand that all dependencies are saved.

Task 2

UnitID	StudentID	DateID	Grade	TeachersID
U1	St1	Dt1	4.7	T1
U2	St1	Dt2	5.1	T2
U1	St4	Dt1	4.3	T1
U5	St2	Dt3	4.9	T3
U4	St2	Dt4	5.0	T4

DateID	Date	Room
Dt1	23.02.03	629
Dt2	18.11.02	631
Dt3	05.05.03	632
Dt4	04.07.03	621

TeachersID	SubjectID	TutorID
T1	Sub1	Tut1
T2	Sub2	Tut3
T3	Sub3	Tut3
T4	Sub4	Tut5

SubjectID	Topic	Book
Sub1	GMT	Demulich
Sub2	Gln	Zehnder
Sub3	PhF	Dümmlers
Sub4	AVQ	SwissTopo

TutorID	TutEmail
Tut1	Tut1@fhbb.ch
Tut3	Tut3@fhbb.ch
Tut5	Tut5@fhbb.ch

Task 3

ProjectName	ProjectManager
Project1	Manager1
Project2	Manager2

ProjectManager	Position	TeamSize
Manager1	CTO	15
Manager2	CTO2	12

ProjectName	Budget
Project1	1kk$
Project2	1.5kk$

Task 4

Group	GroupName	Speciality
g1	Gname1	s1
g2	Gname2	s2

Speciality	SpecName	Faculty
s1	Sname1	f1
s2	Sname2	f2

Faculty	FacName
f1	Fname1
f2	Fname2

Task 5

ProjectID	Curator	TeamID
p1	e1	t1
p2	e2	t2

TeamID	TeamSize	ProjectGroupsNumber
t1	100	5
t2	200	6

Curator	Department
e1	d1
e2	d2

Task 6

List the three design goals for relational databases, and explain why each is desirable. Give an example of both desirable and undesirable types of decompositions.

The three design goals are lossless-join decompositions, dependency preserving decompositions, and minimization ofrepetition of information. They are desirable so we can maintain an accurate database, check correctness of updates quickly, and use the smallest amount of space possible.

An undesirable base is when there is too much repetitive information that is, an unnormalized base and a desirable, respectively, conversely.