dept\_advisor(s\_ID, i\_ID, department\_name)

 $i_ID \rightarrow dept_name$ 

s ID, dept name  $\rightarrow$  i ID

dept\_advisor is not in BCNF, because i\_ID is not a superkey

Any decomposition of dept\_advisor will not include all the attributes in

s\_ID, dept\_name  $\rightarrow$  i\_ID

Example: (s\_ID, i\_ID) (i\_ID, dept\_name)

Thus, the composition is NOT be dependency preserving. The functional dependency  $s_{ID}$ ,  $dept_{name} \rightarrow i_{ID}$  can only be checked by computing the join of the decomposed relations

-2-

ĺ	<u>UnitID</u>	StudentID	Date	Tutor_ID	Topic	Room	Grade	Book	TutEmail
ĺ	U1	St1	23.02.03	Tut1	GMT	629	4.7	Deumlich	tut1@fhbb.ch
ĺ	U2	St1	18.11.02	Tut3	Gin	631	5.1	Zehnder	tut3@fhbb.ch
ĺ	U1	St4	23.02.03	Tut1	GMT	629	4.3	Deumlich	tut1@fhbb.ch
Ī	U4	St2	05.05.03	Tut3	Phf	632	4.9	Dumlmlers	tut3@fhbb.ch
ĺ	U5	St2	04.07.03	Tut5	AVO	621	5	SwissTipo	tut5@fhbb.ch

Tutor_ID	TutEmail
Tut1	tut1@fhbb.ch
Tut3	tut3@fhbb.ch
Tut5	tut5@fhbb.ch

<u>Topic</u>	Book
GMT	Deumlich
Gin	Zehnder
Phf	Dumlmlers
AVG	SwissTipo

UnitID	Date	TutorID	Room	Topic
U1	23.02.03	Tut1	629	GMT
U2	18.11.02	Tut3	631	Gin
U4	04.07.03	Tut5	621	AVG
U5	05.05.03	Tut3	632	Phf

<u>UnitID</u>	<u>StudentID</u>	Grade
U1	St1	4.7
U2	St1	5.1
U1	St4	4.3
U5	St2	4.9
U4	St2	5

-3-

ProjectName	Projectmanager	Position	Budget	TeamSize
Project1	Manager1	СТО	1 kk \$	15
Project2	Manager2	CTO2	1.5 kk \$	12

<u>ProjectName</u>	<u>Projectmanager</u>
Project1	Manager1
Project2	Manager2

ProjectName	Budget	Teamsize	Projectmanager
Project1	1 kk \$	15	Manager1
Project2	1.5 kk \$	12	Manager2

<u>Projectmanager</u>	Position
Manager1	СТО
Manager2	CTO2

Group	Faculty	Speciality
g1	f1	s1
g2	f2	s2

Group	Speciality
g1	s1
g2	s2

Speciality	Faculty
s1	f1
s2	f2

-5-

ProjectID	Department	Curator	TeamSize	ProjectGroupNumber
p1	d1	e1	100	5
p2	d2	e2	120	6

ProjectID	Deparment	
p1	d1	
p2	d2	

ProjectID	TeamSize	Curator
p1	100	e1
p2	120	e2

TeamSize	ProjectGroupNumber	
100	5	
120	6	