

IT 775
Database Technology
Relational Database (RD)
Modeling

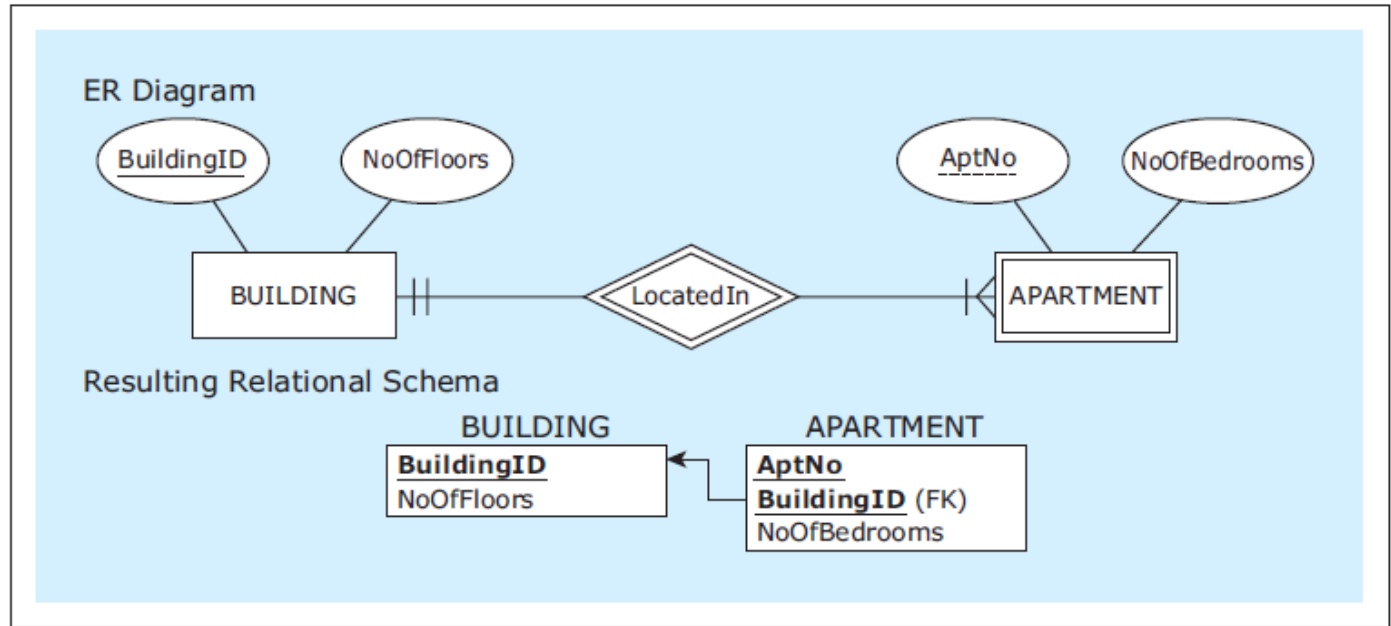
Weak Entity Mapping

MAPPING WEAK ENTITIES

- **Mapping weak entities**
 - Weak entities are mapped in a same way as regular entities with one addition:
 - *The resulting relation has a **composite primary key** that is **composed of the partial identifier and the foreign key** corresponding to the primary key of the owner entity*

MAPPING WEAK ENTITIES

Mapping a weak entity



Sample data records for the mapped relations

BUILDING

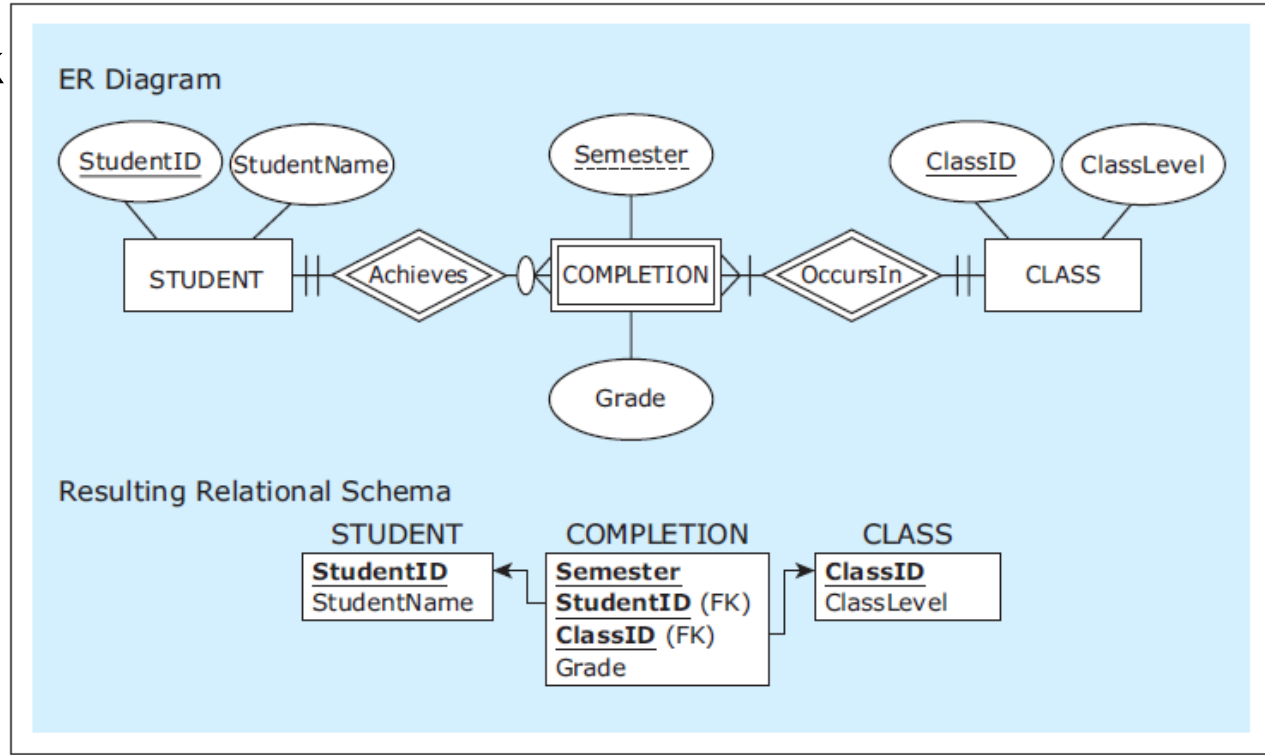
<u>BuildingID</u>	NoOfFloors
A	3
B	2
C	2

APARTMENT

<u>BuildingID</u>	<u>AptNo</u>	NoOfBedrooms
A	101	4
A	201	4
A	301	5
B	101	2
B	201	2
C	101	3
C	102	3
C	201	4

MAPPING WEAK ENTITIES

Mapping a weak entity with two owners

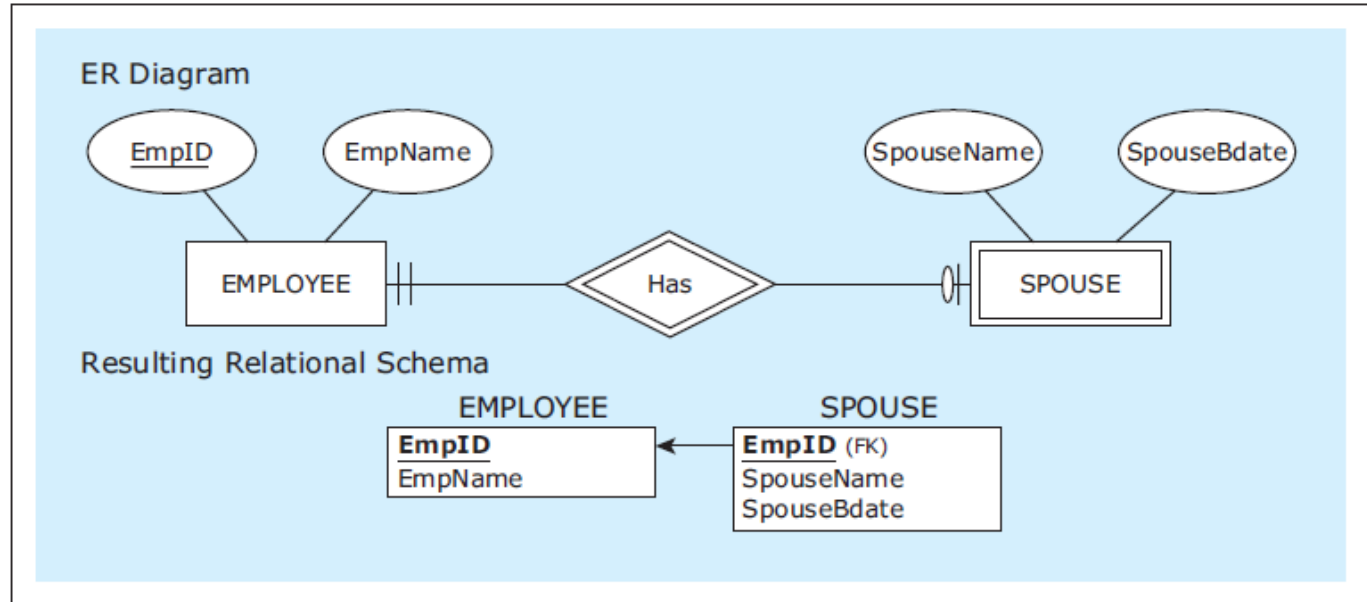


Sample data records for the mapped relations

STUDENT		CLASS		COMPLETION			
<u>StudentID</u>	StudentName	<u>ClassID</u>	ClassLevel	<u>StudentID</u>	<u>ClassID</u>	<u>Semester</u>	Grade
1111	Robin	IS101	Freshman	1111	IS101	Spring10	D
2222	Pat	IS241	Sophomore	1111	IS101	Spring11	D
3333	Jami	IS247	Sophomore	1111	IS101	Spring12	A
				1111	IS241	Fall12	B
				2222	IS101	Fall12	A
				2222	IS241	Fall12	C
				2222	IS247	Spring13	B
				3333	IS101	Fall12	A

MAPPING WEAK ENTITIES

Mapping a weak entity with no partial identifier



Sample data records for the mapped relations

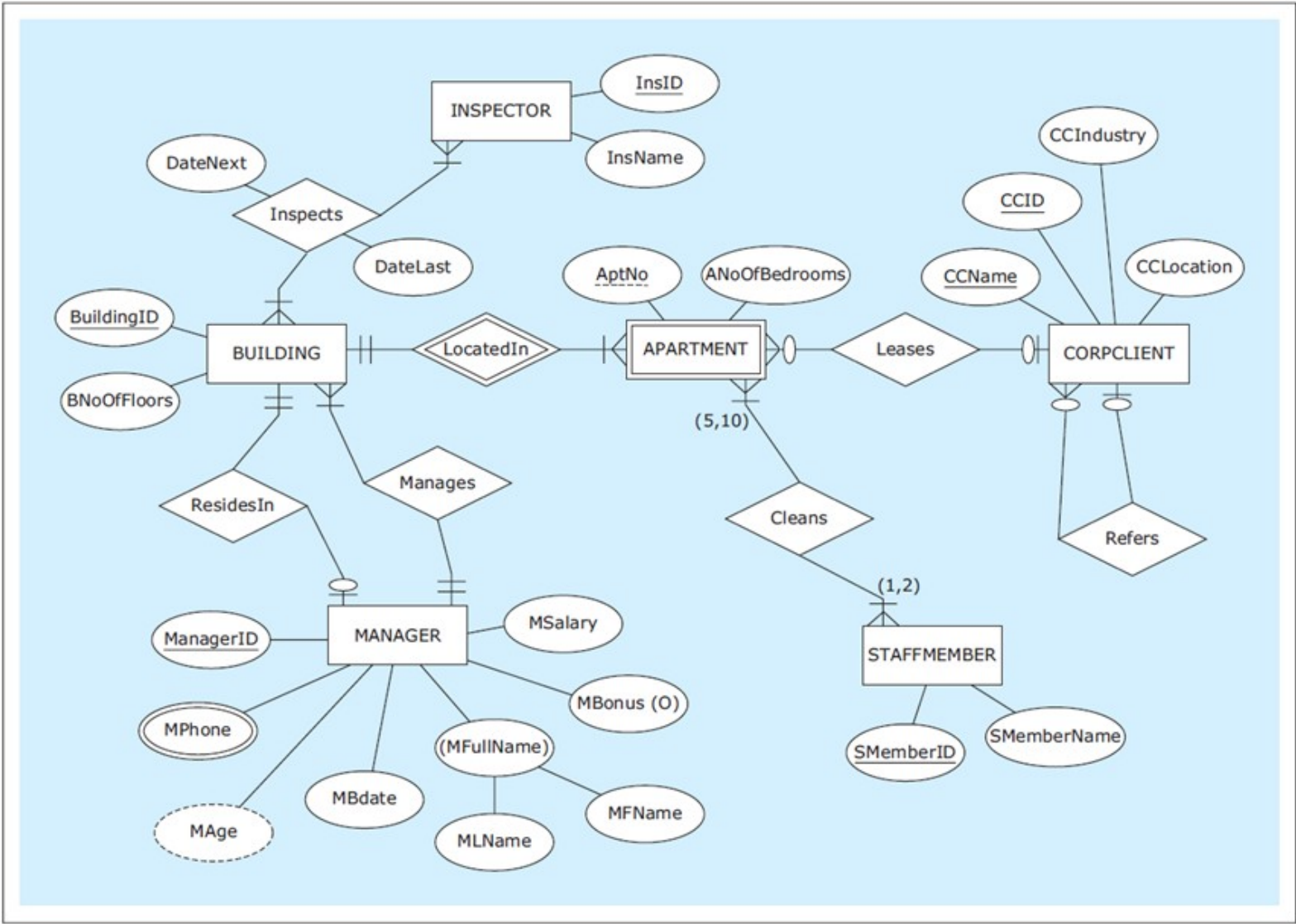
EMPLOYEE

<u>EmpID</u>	EmpName
1234	Becky
2345	Molly
3456	Rob
1324	Ted

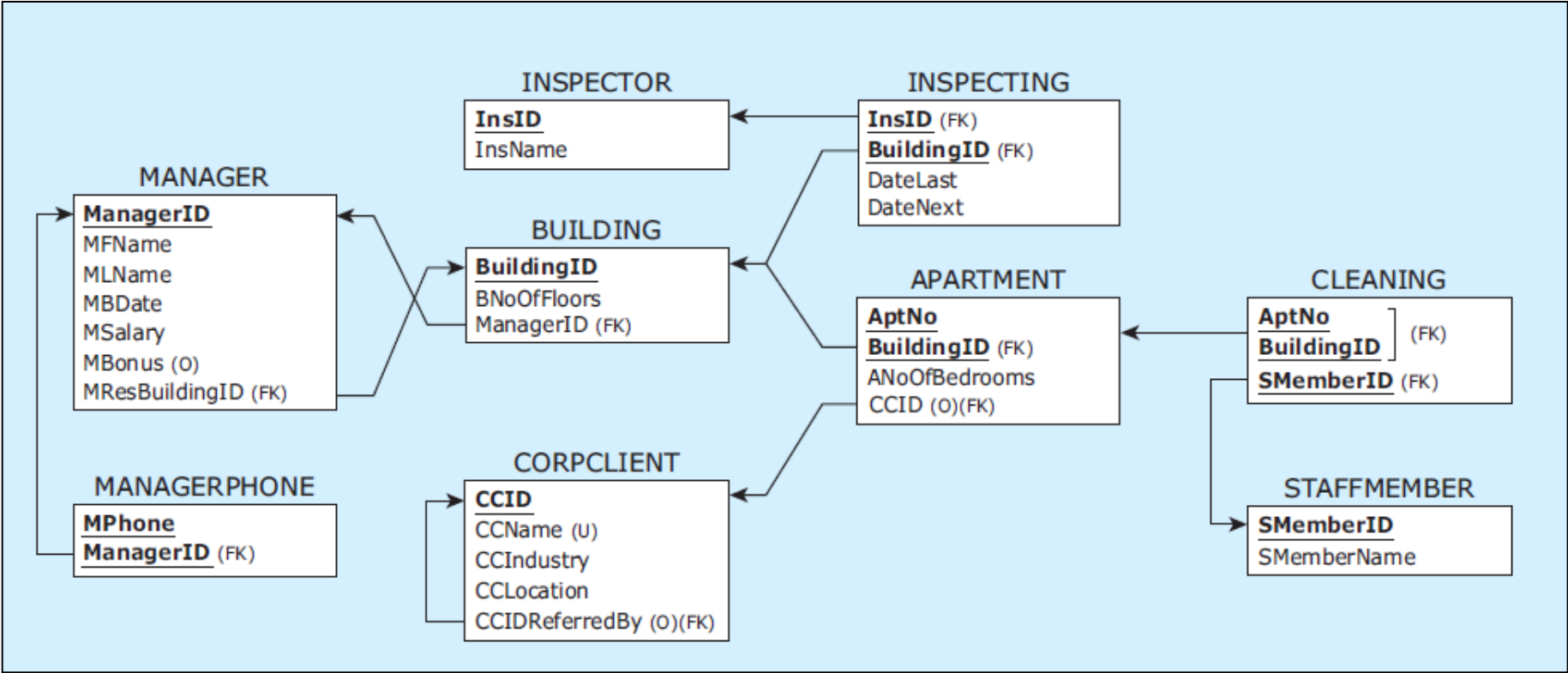
SPOUSE

<u>EmpID</u>	SpouseName	SpouseBdate
1234	Steve	Jan 18
3456	Luchy	Jun 21
1324	Tina	Feb 11

Example ER diagram : HAFH Realty Company Property Management Database



Example mapped relational schema: HAFH Realty Company Property Management Database



Example: Sample data records for the HAFH Realty Company Property Management Database (part 1)

INSPECTOR				BUILDING		
InsID	InsName			BuildingID	BNoOfFloors	BManagerID
I11	Jane			B1	5	M12
I22	Niko			B2	6	M23
I33	Mick			B3	4	M23
				B4	4	M34
APARTMENT						
BuildingID	AptNo	ANoOfBedrooms	CCID			
B1	41	1				
B1	21	1	C111			
B2	11	2	C222			
B2	31	2				
B3	11	2	C777			
B4	11	2	C777			
INSPECTING						
InsID	BuildingID	DateLast	DateNext			
I11	B1	15-MAY-2012	14-MAY-2013			
I11	B2	17-FEB-2013	17-MAY-2013			
I22	B2	17-FEB-2013	17-MAY-2013			
I22	B3	11-JAN-2013	11-JAN-2014			
I33	B3	12-JAN-2013	12-JAN-2014			
I33	B4	11-JAN-2013	11-JAN-2014			

Example: Sample data records for the HAFH Realty Company Property Management Database (part 2)

MANAGER

<u>ManagerID</u>	MFName	MLName	MBDate	MSalary	MBonus	MResBuildingID
M12	Boris	Grant	20-JUN-1980	60000		B1
M23	Austin	Lee	30-OCT-1975	50000	5000	B2
M34	George	Sherman	11-JAN-1976	52000	2000	B4

CLEANING

<u>BuildingID</u>	<u>AptNo</u>	<u>SMemberID</u>
B1	21	5432
B1	41	9876
B2	11	9876
B2	31	5432
B3	11	5432
B4	11	7652

MANAGERPHONE

<u>ManagerID</u>	<u>MPhone</u>
M12	555-2222
M12	555-3232
M23	555-9988
M34	555-9999

STAFFMEMBER

<u>SMemberID</u>	<u>SMemberName</u>
5432	Brian
9876	Boris
7652	Caroline

CORPCLIENT

<u>CCID</u>	CCName	CCIndustry	CCLocation	CCIDReferredBy
C111	BlingNotes	Music	Chicago	
C222	SkyJet	Airline	Oak Park	C111
C777	WindyCT	Music	Chicago	C222
C888	SouthAlps	Sports	Rosemont	C777