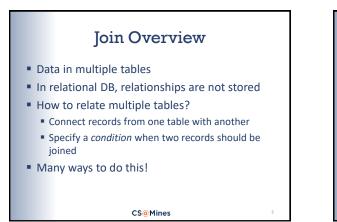
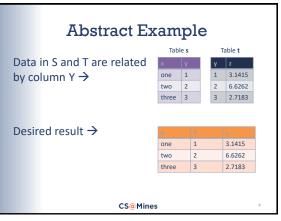
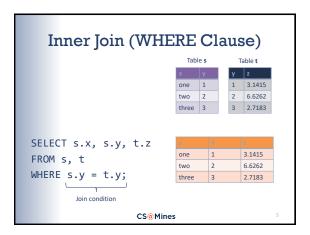
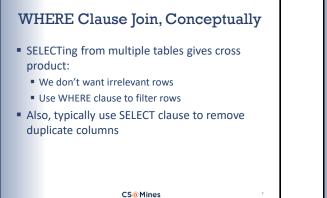
CSCI 403 Database Management 5 – Joins; Naming	JOINS
CS@Mines	CS@Mines 2

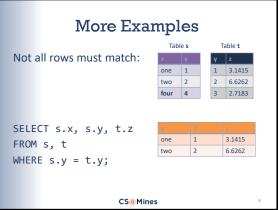






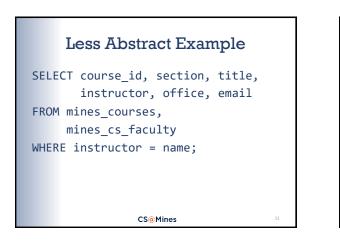
Cross Pro	d	luo	ct				
		Table s			Т		
Without the join	x		У	У		z	
condition:	0	ne	1		1	3.1415	
	tv	vo	2		2	6.6262	
	th	ree	3		3	2.7183	
SELECT * FROM s, t;		х	s.y	t.	1	z	
		one	1	1		3.1415	
		one	1	2		6.6262	
		one	1	3		2.7183	
		two	2	1		3.1415	
		two	2	2		6.6262	
		two	2	3		2.7183	
		three	3	1		3.1415	
CS@Mines	;						6

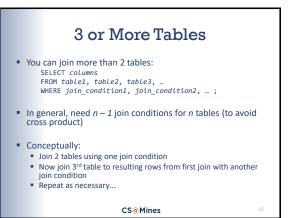




More Exar	npl	es			
	Tabl	e s	٦	Table t	
Can match multiple times:	x	У	У	z	
	one	1	1	3.1415	
	two	2	2	6.6262	
	three	3	3	2.7183	
			2	0.3028	
SELECT s.x, s.y, t.z	х	Y		z	
FROM s, t	one	1		3.1415	
	two	2		6.6262	
WHERE s.y = t.y;	two	2		0.3028	
	three	3		2.7183	
CS@Mine	s				9

			bstra		Example	•	
course_id	section	title			instructor		
CSCI262	В	DATA	STRUCTURES		Painter-Wakefield, Christopher		
CSCI403	A	DATA	BASE MANAGEM	NT	Painter-Wakefield, Christopher		
CSCI406	A	ALGO	RITHMS		Mehta, Dinesh		
CSCI101	В	INTRO TO COMPUTER SCIENCE			Sattizahn, Paul		
mines_	_cs_fa	cult	y (sampl	e dat email	ta)	1	
Mehta, Dinesh		BB 280J	dmehta(@mines.edu]		
Paone, Jeffrey			BB 280C	jpaone@	mines.edu	1	
Rader, Cynthia				crader@	mines.edu		
Painter-Wakefield, Christopher			BB 2801	crader@	mines.edu	1	
CS@Mines						10	





Normalization Teaser

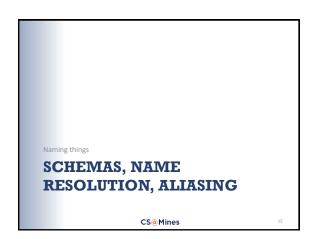
Why bother?

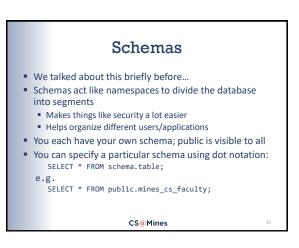
Suppose all data in one big table:

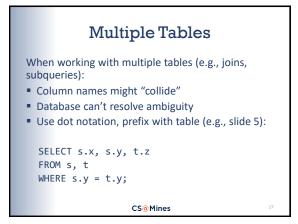
- What if you need to update office info for faculty?
- What happens if a faculty member leaves?
- What do you insert for new faculty?

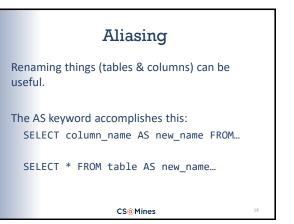
CS@Mines

Notes Join condition can be any Boolean (not just =) Don't forget NULL cannot be (usefully) compared! Inner join vs outer join Inner only keeps matching rows Outer lets you keep all rows on either or both sides We'll see outer join later – different syntax! WHERE clause join vs JOIN clause Different ways of achieving same thing JOIN clause more verbose/unwieldy JOIN clause needed to do outer join

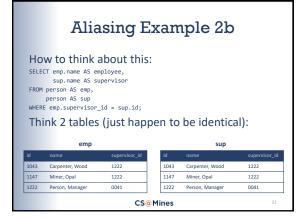


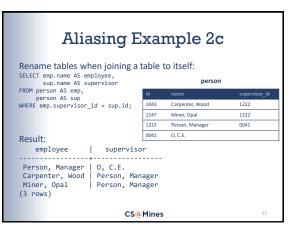


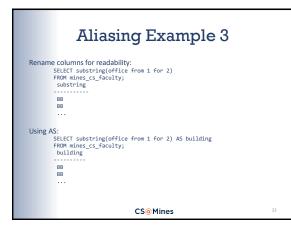


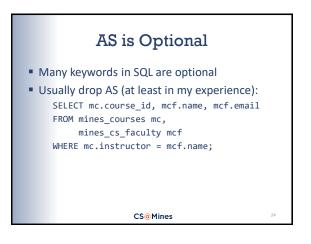


Aliasing Example 1	Aliasing Example 2a
<pre>Rename tables to a shorter name: SELECT mc.course_id, mcf.name, mcf.email FROM mines_courses AS mc, mines_cs_faculty AS mcf WHERE mc.instructor = mcf.name;</pre>	Rename tables when joining a table to itself: SELECT emp.name AS employee, sup.name AS supervisor FROM person AS emp, person AS sup WHERE emp.supervisor_id = sup.id;
	id name supervisor_id 1043 Carpenter, Wood 1222 1147 Miner, Opal 1222 1222 Person, Manager 0041
CS@Mines 19	CS@Mines 20









Double Quotes

Recall: string literals must use single quotes: SELECT * FROM mines_courses WHERE course_id = 'CSCI403';

Double quotes can be used when naming objects (tables, columns, etc.): SELECT "name" FROM "mines_cs_faculty";

Mostly useful when:

- Names contain spaces SELECT foo AS "My Stuff"
- Names have mixed case (AVOID THIS!!!)

CS@Mines

Up Next • Next lecture: Intro to SQL: Types, table creation. • Due on Friday, August 31: Project 1