Business School
UNIVERSITY OF COLORADO DENVER

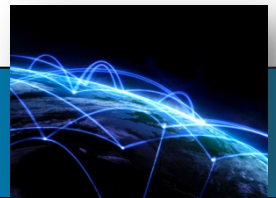
Information Systems Program

Module 4
Basic Query Formulation with SQL

Lesson 3: Join Operator

Lesson Objectives

- Create the result of a join operation on sample tables
- Briefly explain the components of the natural join operator



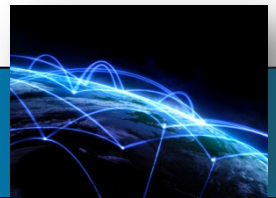
Natural Join Example I

Offering

OfferNo	FacNo
1111	111-11-1111
2222	222-22-2222
3333	111-11-1111

Faculty

FacNo	FacName
111-11-1111	JOE
222-22-2222	SUE
333-33-3333	SARA



Natural Join Example II

Offering

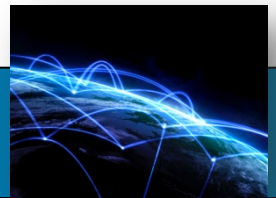
OfferNo	FacNo
1111	111-11-1111
2222	222-22-2222
3333	111-11-1111

Faculty

FacNo	FacName
111-11-1111	JOE
222-22-2222	SUE
333-33-3333	SARA

Faculty Natural Join Offering

OfferNo	FacNo	FacName
1111	111-11-1111	JOE



Natural Join Example III

Offering

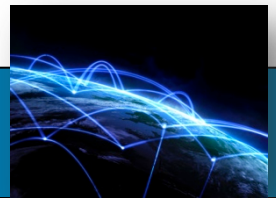
OfferNo	FacNo
1111	111-11-1111
2222	222-22-2222
3333	111-11-1111

Faculty

FacNo	FacName
111-11-1111	JOE
222-22-2222	SUE
333-33-3333	SARA

Faculty Natural Join Offering

OfferNo	FacNo	FacName
1111	111-11-1111	JOE
2222	222-22-2222	SUE



Natural Join Example IV

Offering

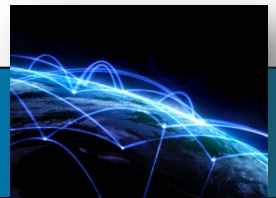
OfferNo	FacNo
1111	111-11-1111
2222	222-22-2222
3333	111-11-1111

Faculty

FacNo	FacName
111-11-1111	JOE
222-22-2222	SUE
333-33-3333	SARA

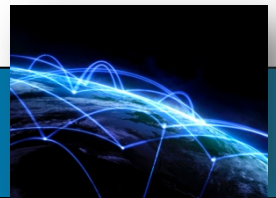
Faculty Natural Join Offering

OfferNo	FacNo	FacName
1111	111-11-1111	JOE
2222	222-22-2222	SUE
3333	111-11-1111	JOE



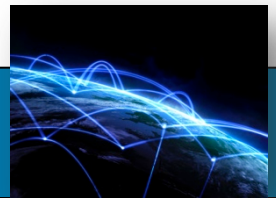
Join Operator

- Most databases have many tables
- Combine tables using the join operator
- Specify matching condition
  - Can be any comparison but usually =
  - PK = FK most common join condition
  - Relationship diagram useful when combining tables

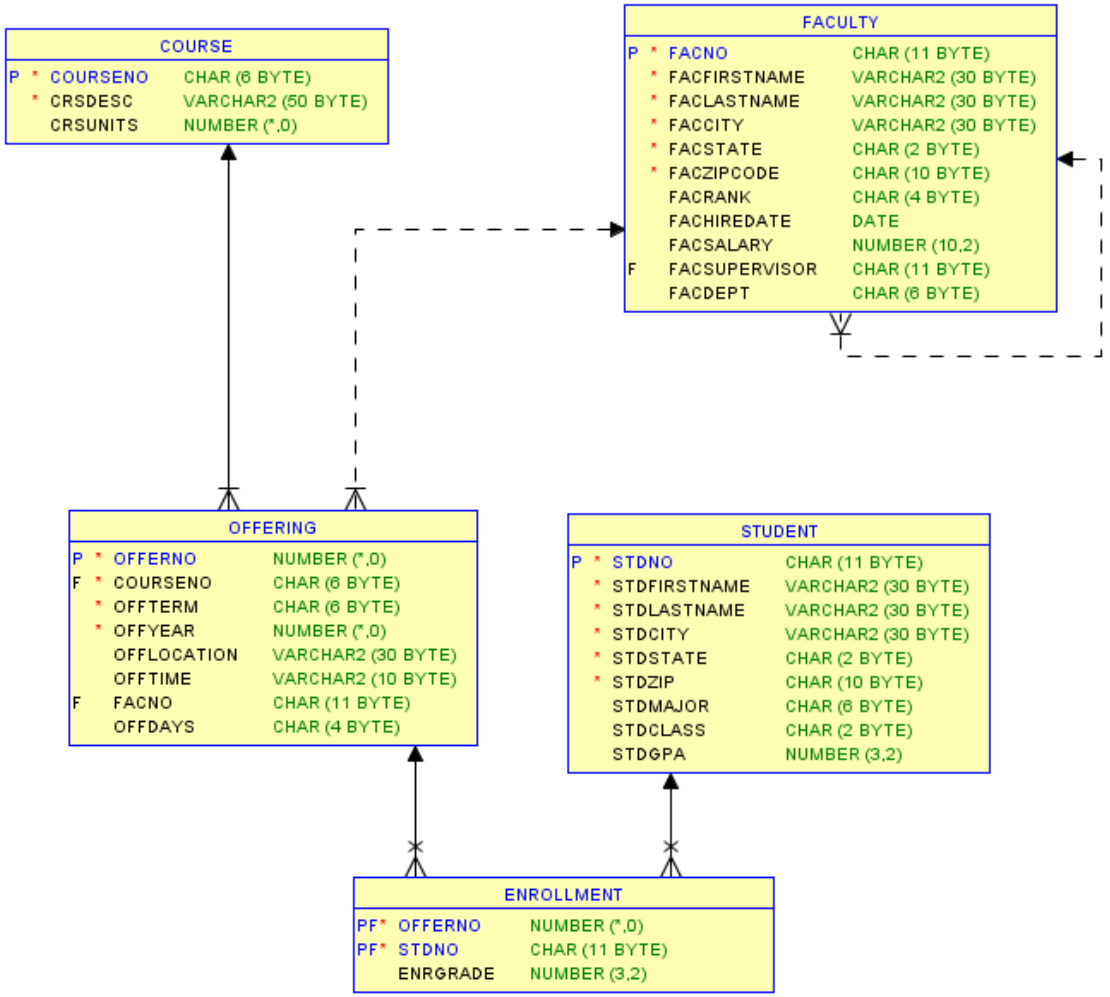


Natural Join Operator

- Most common join operator
- Requirements
  - Equality matching condition
  - Matching columns with the same unqualified names
  - Remove one join column in the result
- Usually performed on PK-FK join columns



University Database Diagram



Summary

- Essential operator in query formulation
- Use sample tables to learn the join operator
- Explicit join specification in the SELECT statement