SQL

The JOIN family of operators

Jennifer Widom

SQL: The JOIN family of operators

```
Select  A₁,A₂,…,Aₙ
From    R₁,R₂, …,Rₘ        ← Explicit Join of tables
Where   condition
```

Inner Join On *condition* $\bowtie_\theta$ ← condition

Natural Join $\bowtie$

Inner Join Using(*attrs*) $\bowtie$

Left | Right | Full Outer Join

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```
Select  A₁,A₂,…,Aₙ
From    R₁,R₂, …,Rₘ        ← Explicit Join of tables
Where   condition
```

Demo: simple college admissions database

College(cName,state,enrollment)

Student(sID,sName,GPA,sizeHS)

Apply(sID,cName,major,decision)

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