

# Third Normal Form

- 2NF and no **transitive dependencies**
- A *transitive dependency* is when a non-key attribute depends on another non-key attribute
- Note: This is called transitive, because the primary key is a determinant for another attribute, which in turn is a determinant for a third attribute

## 3NF Example

|               |                |           |          |
|---------------|----------------|-----------|----------|
| <u>Course</u> | <u>SectNum</u> | Classroom | Capacity |
|---------------|----------------|-----------|----------|

- Classroom → Capacity      TRANSITIVE
- Any partial FDs?      NO
- Any transitive FDs?      YES !
  - How do we eliminate it?
  - By breaking into its own table

## 3NF Normalization

|               |                |                  |
|---------------|----------------|------------------|
| <u>Course</u> | <u>SectNum</u> | <u>Classroom</u> |
|---------------|----------------|------------------|

  

|                  |          |
|------------------|----------|
| <u>Classroom</u> | Capacity |
|------------------|----------|

