**Part3: RA**

**Booktown Query 2**  
π\_{Subject} (Subjects) - π\_{Subject\_ID → Subject} (Books)

**Booktown Query 3**π\_{ISBN} (σ\_{First\_Name='Agatha' ∧ Last\_Name='Christie'} (Authors) ⋈ Books ⋈ Editions)

**Booktown Query 4**π\_{First\_Name, Last\_Name} (Authors ⋈

(π\_{Author\_ID} (σ\_{Subject='Children/YA'} (Books ⋈ Subjects))

∩

π\_{Author\_ID} (σ\_{Subject='Fiction'} (Books ⋈ Subjects))))

**Booktown Query 5**π\_{Author\_ID, First\_Name, Last\_Name} (Authors)

-

π\_{Author\_ID, First\_Name, Last\_Name} (

σ\_{First\_Name='J. K.' ∧ Last\_Name='Rowling'} (Authors)

⋈

(Books ⋈ Subjects))

**Part4: Normalization**

1. {id}, {name, major}, {school, name}, {GPA, name}

2. Yes because id, name, major, school, GPA are part of some key for relation

3. The relation is not in BCNF because the dependencies GPA -> major and school -> major violate the BCNF criteria.

4. The functional dependencies GPA -> major and school -> major are violated in the provided snapshot of the table.