Consider the following relation schemas:

Course(Cno, Cname, Dept)
Student(Sid, Sname, Major)
Takes(Sid, Cno, Grade)

Consider the constraint: “The set of courses taken by students who received at least one ‘A’ grade in one of these courses contains the set of courses taken by students who never received an ’A’ grade in at least one of these courses.”

This constraint can be expressed using a superset comparison between relational expressions as follows:

\[ \Pi_{Cno}(\sigma_{\text{Grade}=A}(Takes)) \supseteq \Pi_{Cno}(\Pi_{Sid}(Takes) - \Pi_{Sid}(\sigma_{\text{Grade}=A}(Takes))) \bowtie \text{Takes}. \]