Cardinality Examples When Joining Queries in Report Studio

PURDUE UNIVERSITY
Common View – Deep Understanding – Better Decisions

BUSINESS INTELLIGENCE COMPETENCY CENTER

When building queries for reports, one has to consider the data and what is there, and is not there. If you know the column could have null data you need to consider the join options. **If in doubt join the reporting views with an outer join (Example 2). It assures you will not drop any rows of data.**

Example 1 – Equal Join

Most data joins are to refine lists to an exact set of requirements. Let's say we need a list of students by major with mailing addresses. **If they do not have an active address we do not want to see them.**

Data from Academic Query				Data from Address Query			
201510	ANTH	Bundy	L	3785 E 550 S-57	Denver	CO	77654
201510	ANTH	Clark	E	1601 W Till Rd	Buffalo	NY	15436
201510	ANTH	Delagrange	K	PO Box 143	Chicago	IL	49876

Academic Query		Address Query
Each student in the academic query has 1 one or more rows	Operator	Each student in the academic query must have 1 or more rows in the Address query
Cardinality is 1.n	=	Cardinality is 1.n

When the student data was joined to the email, an 'equal' join was done so only students with a valid address appear.

Example 2 – Left Outer Join

Let's say we need a list of students by major and include the addresses **IF** there is one in the database:

Data from Academic Query				Data from Address Query			
201510	ANTH	Black	R				
201510	ANTH	Bundy	L	3785 E 550 S-57	Denver	CO	77654
201510	ANTH	Clark	E	1601 W Till Rd	Buffalo	NY	15436
201510	ANTH	Cramer	A				
201510	ANTH	Delagrange	K	PO Box 143	Chicago	IL	49876

Academic Query		Address Query
Each student in Academic Study has 1 has one or more rows	Operator	Each student in Academic Study may or may not have 1 or more rows in Person Address
Cardinality is 1.n	=	Cardinality is 0.n

When the student data query was joined to the email query, an 'outer' join was done so all students appear even if they do not have an address in the database.