In Class Relational Algebra Operations Results

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Table R

COL_A COL_B

COL_A	COL_B
A	1
B	2
D	3
F	4
E	5

Table S

COL_A COL_B

COL_A	COL_B
A	1
C	2
D	3
E	4

UNION

R UNION S

COL_A COL_B

COL_A	COL_B
A	1
B	2
D	3
F	4
E	5
C	2
E	4

INTERSECTION

R INTERSECTION S

COL_A   COL_B

COL_A	COL_B
A	1
D	3

DIFFERENCE: R – S

COL_A   COL_B

COL_A	COL_B
B	2
F	4
E	5

DIFFERENCE: S -R

COL_A   COL_B

COL_A	COL_B
C	2
E	4

CARTESIAN PRODUCT

R CROSS S

R.COL_A   **R.COL_B**   **S.COL_A**   **S.COL_B**

A	1	A	1
A	1	C	2
A	1	D	3
A	1	E	4
B	2	A	1
B	2	C	2
B	2	D	3
B	2	E	4
D	3	A	1
D	3	C	2
D	3	D	3
D	3	E	4
F	4	A	1
F	4	C	2
F	4	D	3
F	4	E	4
E	5	A	1
E	5	C	2
E	5	D	3
E	5	E	4

JOIN

R.COL_A = S.COL_A

R.COL_A   **R.COL_B**   **S.COL_A**   **S.COL_B**

R.COL_A	R.COL_B	S.COL_A	S.COL_B
A	1	A	1
D	3	D	3
E	5	E	4

JOIN

R.COL_B = S.COL_B

R.COL_A	R.COL_B	S.COL_A	S.COL_B
A	1	A	1
B	2	C	2
D	3	D	3
F	4	E	4

OUTER JOINS

LEFT OUTER JOIN

R.COL_A = S.COL_A

R.COL_A	R.COL_B	S.COL_A	S.COL_B
A	1	A	1
D	3	D	3
E	5	E	4
B	2	Null	Null
F	4	Null	Null

RIGHT OUTER JOIN

R.COL_B = S.COL_B

R.COL_A	R.COL_B	S.COL_A	S.COL_B
A	1	A	1
D	3	D	3
Null	Null	C	2
E	5	E	4

FULL OUTER JOIN

R.COL_B = S.COL_B

R.COL_A	R.COL_B	S.COL_A	S.COL_B
A	1	A	1
D	3	D	3
E	5	E	4
B	2	Null	Null
F	4	Null	Null
Null	Null	C	2