Step 1: Product

EMP_CODE	EMP_LNAME	EMPLOYEE.JOB_CODE	JOB.JOB_CODE	JOB_DESCRIPTION
14	Rudell	2	1	Clerical
14	Rudell	2	2	Technical
14	Rudell	2	3	Managerial
15	McDade	1	1	Clerical
15	McDade	1	2	Technical
15	McDade	1	3	Managerial
16	Ruellardo	1	1	Clerical
16	Ruellardo	1	2	Technical
16	Ruellardo	1	3	Managerial
17	Smith	3	1	Clerical
17	Smith	3	2	Technical
17	Smith	3	3	Managerial
20	Smith	2	1	Clerical
20	Smith	2	2	Technical
20	Smith	2	3	Managerial

Step 2: Select

EMP_CODE	EMP_LNAME	EMPLOYEE.JOB_CODE	JOB.JOB_CODE	JOB_DESCRIPTION
14	Rudell	2	2	Technical
15	McDade	1	1	Clerical
16	Ruellardo	1	1	Clerical
17	Smith	3	3	Managerial
20	Smith	2	2	Technical

Step 3: Project

EMP_CODE	EMP_LNAME	JOB_CODE	JOB_DESCRIPTION
14	Rudell	2	Technical
15	McDade	1	Clerical
16	Ruellardo	1	Clerical
17	Smith	3	Managerial
20	Smith	2	Technical

2. There would be no change in the final table because there is no Data Guru for any employee job codes. The following join is shown below:

Step 1: Product

EMP_CODE	EMP_LNAME	EMPLOYEE.JOB_CODE	JOB.JOB_CODE	JOB_DESCRIPTION
14	Rudell	2	1	Clerical
14	Rudell	2	2	Technical
14	Rudell	2	3	Managerial
14	Rudell	2	4	Data Guru
15	McDade	1	1	Clerical
15	McDade	1	2	Technical
15	McDade	1	3	Managerial
15	McDade	1	4	Data Guru
16	Ruellardo	1	1	Clerical
16	Ruellardo	1	2	Technical
16	Ruellardo	1	3	Managerial
16	Ruellardo	1	4	Data Guru
17	Smith	3	1	Clerical
17	Smith	3	2	Technical
17	Smith	3	3	Managerial
17	Smith	3	4	Data Guru
20	Smith	2	1	Clerical
20	Smith	2	2	Technical
20	Smith	2	3	Managerial
20	Smith	2	4	Data Guru

Step 2: Select

EMP_CODE	EMP_LNAME	EMPLOYEE.JOB_CODE	JOB.JOB_CODE	JOB_DESCRIPTION
14	Rudell	2	2	Technical
15	McDade	1	1	Clerical
16	Ruellardo	1	1	Clerical
17	Smith	3	3	Managerial
20	Smith	2	2	Technical

Step 3: Project

EMP_CODE	EMP_LNAME	JOB_CODE	JOB_DESCRIPTION
14	Rudell	2	Technical
15	McDade	1	Clerical
16	Ruellardo	1	Clerical

17	Smith	3	Managerial
20	Smith	2	Technical

3.

Employee Left Outer Join Job

EMP_CODE	EMP_LNAME	EMPLOYEE.JOB_CODE	JOB.JOB_CODE	JOB_DESCRIPTION
14	Rudell	2	2	Technical
15	McDade	1	1	Clerical
16	Ruellardo	1	1	Clerical
17	Smith	3	3	Managerial
20	Smith	2	2	Technical

Employee Right Outer Join Job

EMP_CODE	EMP_LNAME	EMPLOYEE.JOB_CODE	JOB.JOB_CODE	JOB_DESCRIPTION
14	Rudell	2	2	Technical
15	McDade	1	1	Clerical
16	Ruellardo	1	1	Clerical
17	Smith	3	3	Managerial
20	Smith	2	2	Technical
			4	Data Guru

There is a difference between the two tables because for the left outer join, there are no job codes in the employee table that do no match job codes in the job table. However, there are job codes in the job table that are not represented in the job codes in the employee table. Therefore, these job codes are represented in the Employee right outer join job table.