

Cardinality

Cardinality is the only important point to be explained for Crow's Foot notation. There is also middle tables we are not able to see as clear as Crow's Foot notation compared to Chen notation. Instead associative entities used for middle tables with Chen notation.(Employee Department and Department Manager).

I would like to explain cardinalities between the entities as far as I understood from my researches.

Employee – Job Title: Employees **has** a job title. Each employee only can have one job title and it's mandatory. On the other hand, many job titles captures many employee, however there might be some job titles are not captured. It's optional many. So the cardinality between to entity is ONE MANDATORY – MANY OPTIONAL.

Employee – Salary: Employees **earns** Salary. One employee can have only one salary and it's mandatory on both sides. ONE MANDATORY TO ONE MANDATORY.

Salary – Salary History: One salary can have many records. And even if there is a new employee initial salary will be recorded. It's ONE MANDATORY – MANY MANDATORY.

Employee – Department Manager: One department manager can be only one employee and many employees are department managers but there are employees and they are not a manager. MANY OPTIONAL - ONE MANDATORY.

Department Manager – Department: Each department can have many managers and each department must have a manager. A manager can manage only one department and all managers must manage a department. It's ONE MANDATORY – MANY MANDATORY.

Department Manager – Department Manager History: Each department manager can have many Department Manager History. Every manager must have a department manager history. Every Department Manager History must belong to a manager. It's ONE MANDATORY – MANY MANDATORY.

Department_id and Employee_id just indicates employees' department.

Employee department and Employee: Each department can have many employees and each employee can work in many departments. Each department must have employee and each employee must be in a department. It's MANY MANDATORY – MANY MANDATORY

Employee Department and Department: It's same as above cardinality. Just indicates employee departments by a compound key.