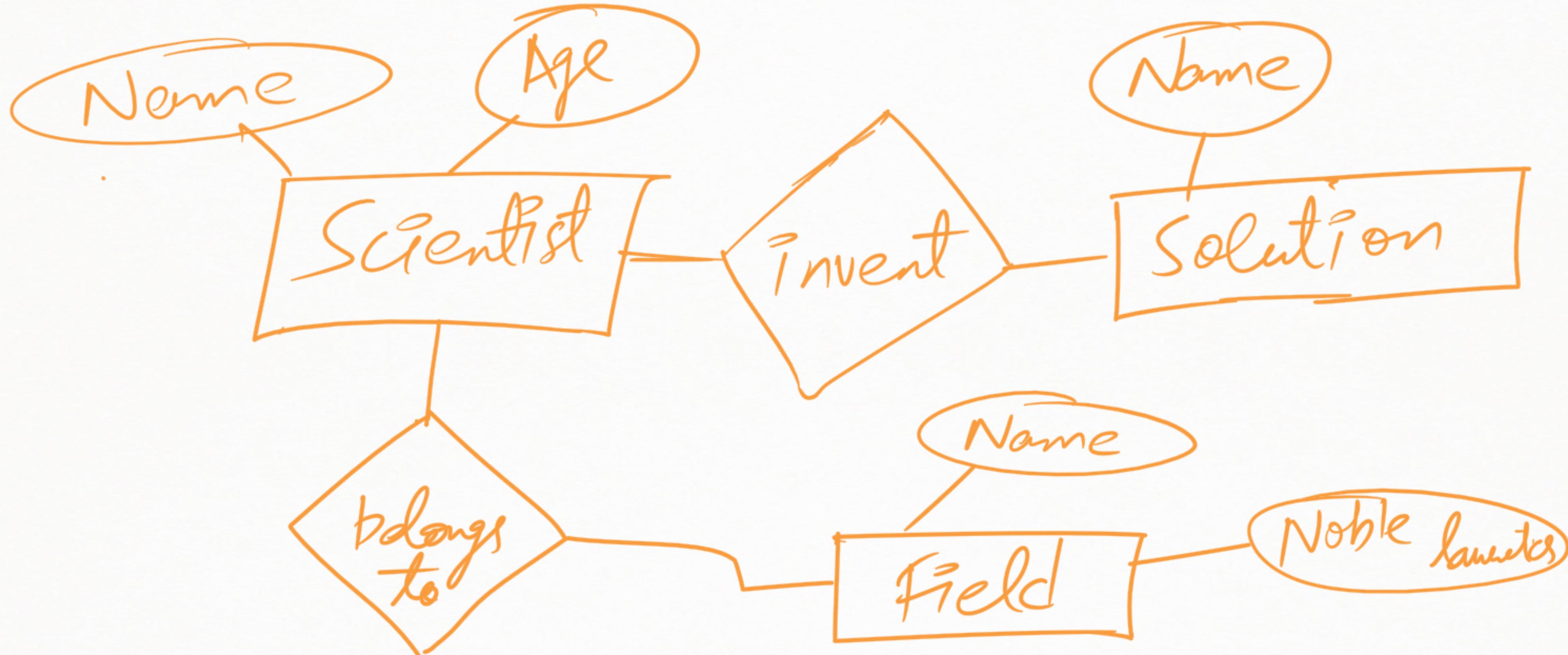


# Scientist invent solution



## # Types of Cardinality Relationships

- ① Many to one ( $N:1$ )
- ② Many to many ( $M:N$ )
- ③ One to One ( $1:1$ )

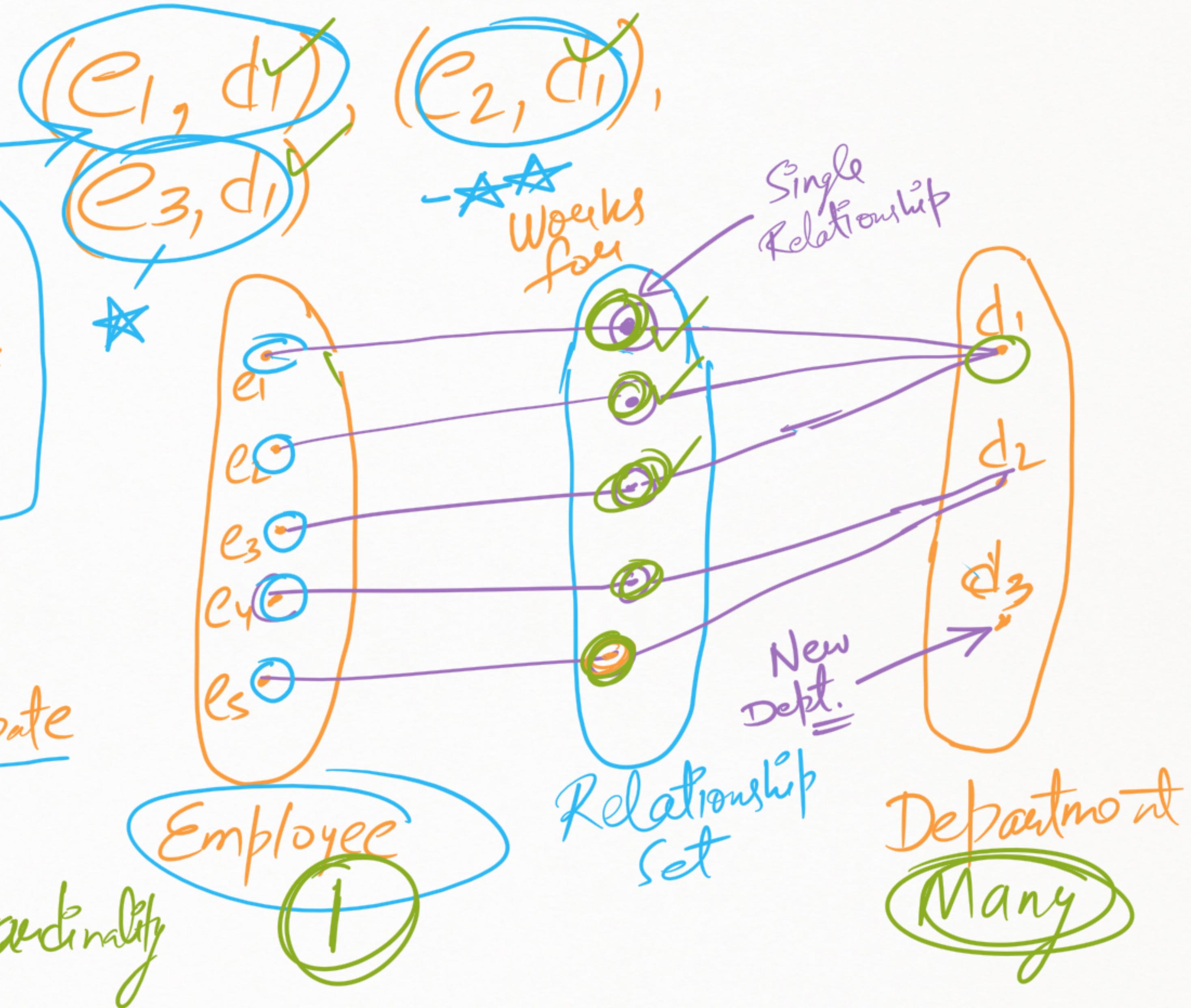
## Many to One

- # → Every Employee works for 1 Department
- (2) → Department can have many employees.
- (3) → New Dept may not have an employee.

Cardinality = Max No of Relationships in which an entity can participate

Options → 1, Many

Cardinality



# Representation  $N,M \leftarrow$  Many



→ Many employees can work for a single department.

→ Many to One Relationship

→ Single department can have many employees.

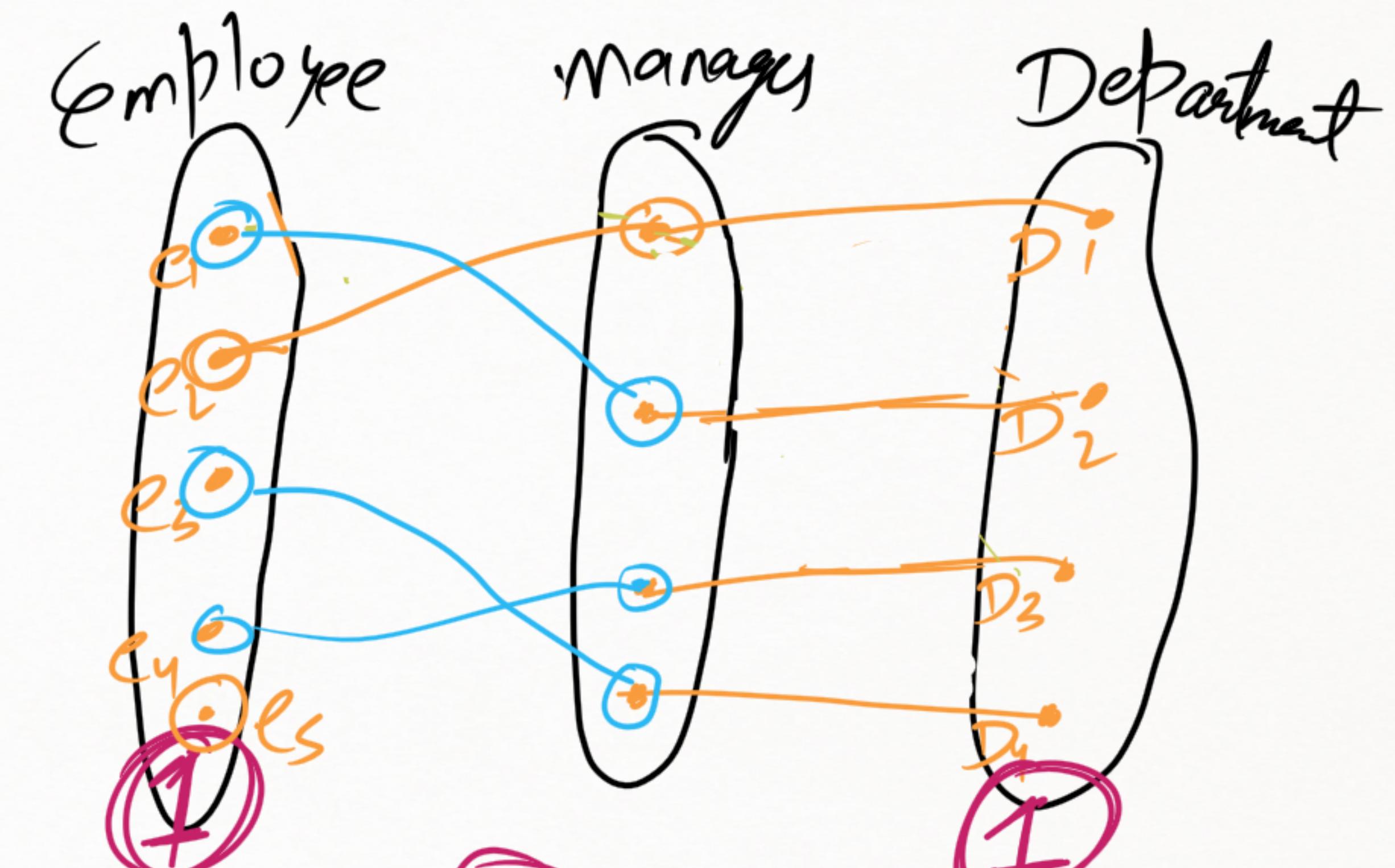
① Every Dept should have a manager.

② Only one employee manages a Department

③ An employee can manage only 1 Department

Cardinality

One to One ✓



Employee

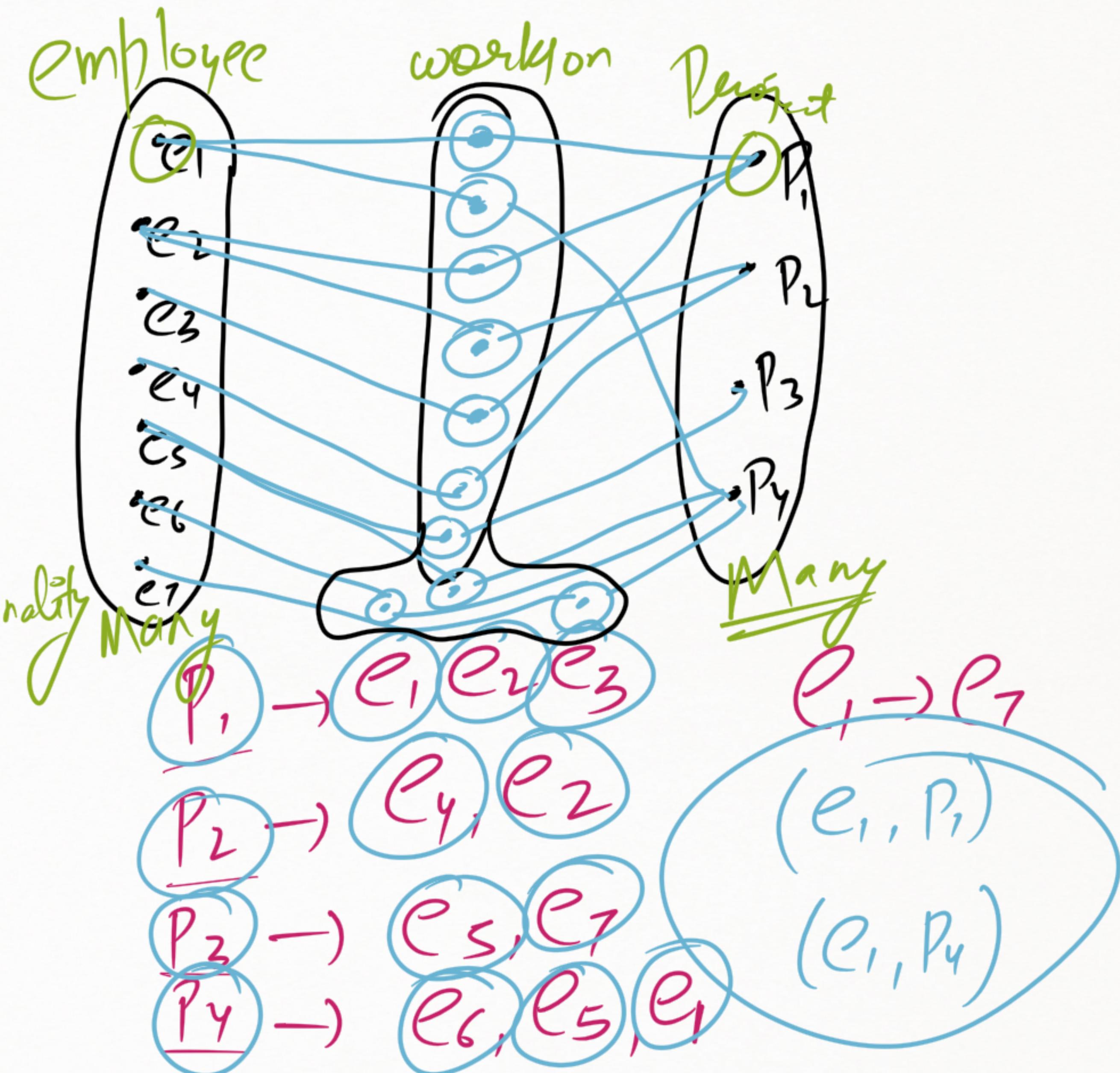
Department

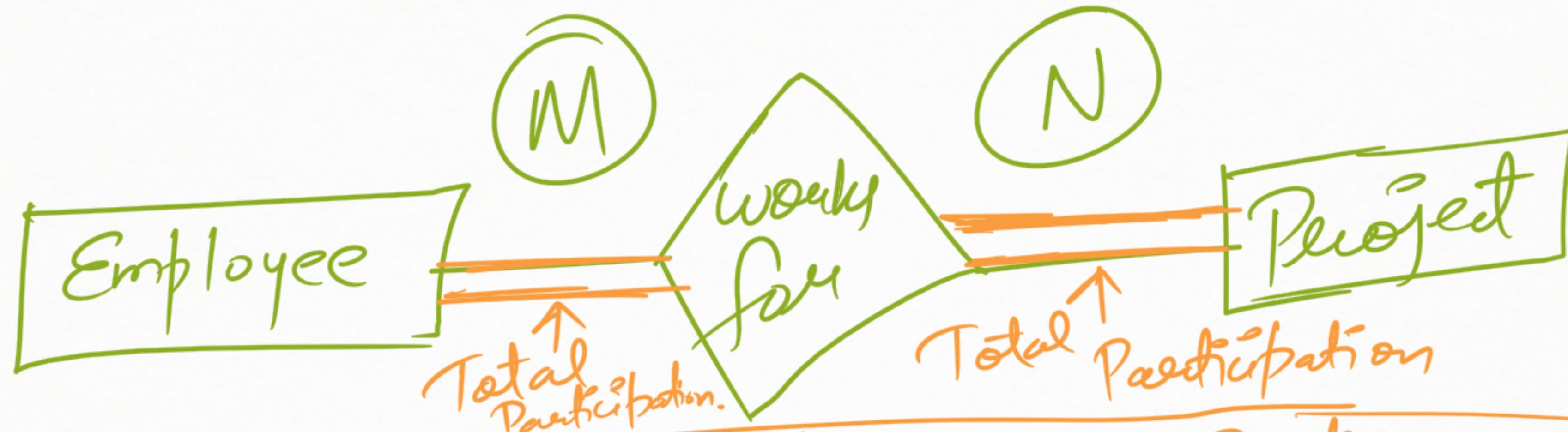
Partial  
Participation

Total  
Participation.

## ~~# Reg. Many to Many~~

- Every employee is supposed to work at least on one project.
- Employee can work on many projects.
- Every project should have at least 1 employee, it can have many.





# Partial Participation Vs Total Participation

entity may not  
have a  
full relationship

At least one  
Relationship

