

Assignment 5

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ER Diagram Viewed as Graph

- **The graph is disconnected:**

- When there are pairs of sets that are not related to each other
- In an enterprise, 2 parts are independent of each other
- Separate relationships are not connected to each other

- **The graph has a cycle:**

- When every pair is related to each other in at least 2 different ways and starts and ends in the same circular reference

Why do we have weak entity sets?

- Weak entity sets are dependent on other entities
- It is helpful to have to know which is the stronger entity and how they are existent to maintain modeling of these relationships
- Weak entity sets are needed when there are strong entity sets
 - Ex. Room in a building

Employee Database

- **i.** Select e.id, e.person_name From e JOIN works as w ON e.id=w.id JOIN company as c ON c.company_name=w.company_name Where e.city=c.city
- **ii.** Select e.id, e.person_name From e JOIN managers as m ON e.m_id=m.id JOIN employee as manager_emp ON m.manager_id=manager_emp.ID Where e.city= manager_emp.city AND e.street=manager_emp.street
- **iii.** Select e.id, e.person_name From employee Where salary> (Select AVG (salary) From employee)

What is wrong with this query?

```
select name, title
from instructor natural join teaches natural join section natural join course
where semester = 'Spring' and year = 2017
```

- Having too many natural joins may be problematic but because there are some attributes that some tables do not have we have to be more specific:
 - Select i.name, c.title From instructor as I JOIN teaches ON i.ID=t.id JOIN section as t ON t.sec.id=s.sec_id and t.course_id=s.course_id and t.semester=s.semester and t.year=s.year JOIN coure on s.course_id=c.course_id Wheresemester='Spring' and year=2017