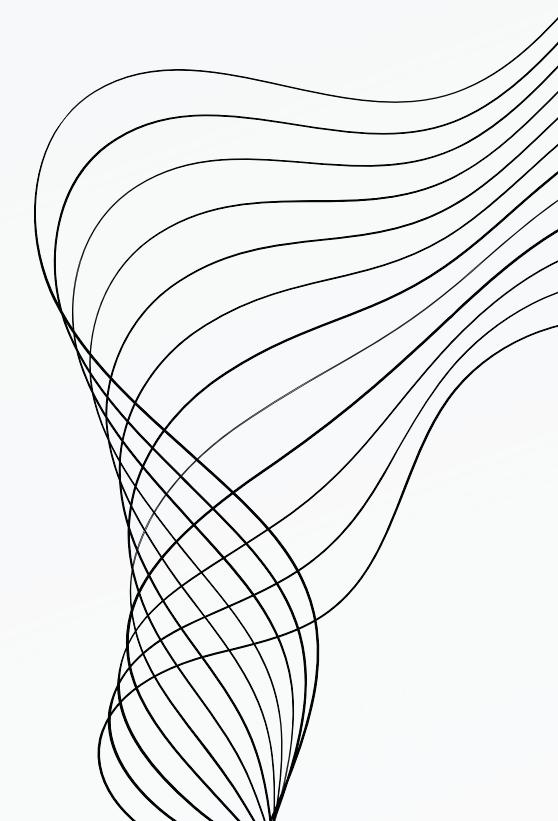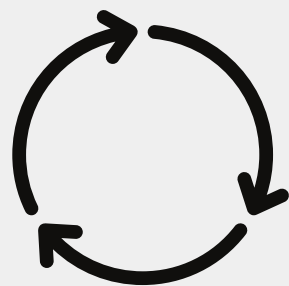# EPPS 6354

ASSIGNMENT 5

BY JANNELLE NAVALES

QUESTION 1

If an E-R graph is disconnected, then the entities are not connected. For example, in an accounting firm database, "clients" may have no relation to "offices" if they are not assigned an office.

If an ER graph is a cycle, then there is an interconnection of data. For example, in a hospital database, patients, doctor, and medication, could be represented as a separate entities, with a line drawn connected to each other in an ER diagram.

QUESTION 3

In real life, some entities' characteristics are actually dependent on the characteristics of other objects. Therefore, this should be represented accurately in the storage of data and actually protects integrity. Hence why we have **weak entity sets**.

QUESTION 4A

Find ID and name of each employee who lives in the same city as the location of the company for which the employee works.

```
SELECT e.ID, e.person_name
FROM employee AS e, works AS w,
company as c
WHERE e.ID = w.ID AND
w.company_name = c.company_name
AND e.city = c.city;
```

QUESTION 4A

Find ID and name of each employee who lives in the same city and on the same street as does her or his manager.

```
SELECT e.ID, e.person_name
FROM employee AS e, employee AS em, manages AS m
WHERE e.ID = em.ID AND em.ID = m.ID AND e.street = em.street AND e.city = em.city;
```

QUESTION 4A

Find ID and name of each employee who earns more than the average salary of all employees of her or his company.

```
SELECT e.ID
FROM works as w
WHERE salary > (SELECT AVG(salary)
FROM works AS wa WHERE
w.company_name =
wa.company_name);
```

WHAT'S WRONG WITH THE FOLLOWING?

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

It appears to list one course twice; however, in reality each tuple represents a **different section**. Both sections of the class had the same instructor and taught the same year. To prevent this from happening, simply use **select distinct**.

name	title
Brandt	Game Design
Brandt	Game Design
Kim	Intro. to Digital Systems