**Lab 2: Identify Special FDs**

Complete the following exercises off-platform. This is ungraded and for your own learning. Write down your answers ....

**Relation 1**

Is there a partial functional dependency? Is there a transitive functional dependency?

Assignments(A, B, C, D, E, F, G, H, I, J, K, L, N, Q)

fd1: A, B, C -> D, E, F, G, H, I, J, K, L, N, Q

**Answer**: ~~Yes, this is a partial functional dependency (fd1).~~ No, there is no transitive functional dependency

There is no partial FD. There is no transitive FD.

**Relation 2**

Is there a partial functional dependency? Is there a transitive functional dependency?

Assignments(A, B, C, D, E, F, G, H, I, J, K, L, N, Q)

fd1: A, B, C -> D, E, F, G, H, I, J, K, L, N, Q

fd2: D -> L, N, Q

fd3: L -> N

**Answer:** ~~The FD “fd1” is a partial functional dependency~~. The FD “fd3” is a transitive FD.

There is no partial FD. There are transitive FDs:

A,B,C 🡪 D & D🡪L

D 🡪 L & L 🡪 N

**Relation 3**

Is there a partial functional dependency? Is there a transitive functional dependency?

Assignments(A, B, C, D, E, F, G, H, I, J, K, L, N, Q)

fd1: A, B, C -> D, E, F, G, H, I, J, K, L, N, Q

fd2: A -> D, E, F, L, N, Q

fd3: B, C -> G, H

fd4: D -> L, N, Q

fd5: L -> N

**Answer**: ~~“fd1”, “fd3” are partial functional dependencies. “fd3” and “fd5” are transitive FDs~~.

There are partial FDs: A is part of (A, B, C) 🡪 D, E, F, L, N, G; also, B, C is a part of (ABC) 🡪 GH

There are transitive FDs:

A, B, C 🡪 D & D 🡪 L, N, Q;

D 🡪 L and L 🡪 N

A 🡪 D and D 🡪 L

**Relation 4**

Is there a partial functional dependency? Is there a transitive functional dependency?

CustomerContact (FirstName, LastName, DoB, Email, Zodiac, Street, County, City, State, Zip, Company, CompanyInfo)

fd1: FirstName, LastName, DoB -> Email, Zodiac, Street, County, City, State, Zip, Company, CompanyInfo

fd2: LastName, DoB → Email

fd3: DoB → Zodiac

fd4: Zip → City, State

fd5: Company → CompanyInfo

**Answer**: ~~“fd1”, “fd2” are partial dependencies. “fd3” and “fd5” are transitive FDs.~~

There are partial FDs: DoB is part of (FirstName, LastName, DoB) 🡪 Zodiac; Also (LastName, Dob) is part of (Firstname, LastName, DoB) 🡪 Email

There are transitive FDs: FirstName, LastName, DoB 🡪 Zip, and Zip 🡪 City, State. Also, FirstName, LastName, DoB 🡪 Company, and Company 🡪 CompanyInfo