Phase 3

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Final Project: Phase 3, Tasks 3 and 4

**Task 3**: Enumerate the concerned functional dependencies in your system.

All of our tables are as broken down as possible in which all 𝝰→ 𝞫 are trivial because 𝞫 ⊆ 𝝰.

**Task 4**: Revise the database schema design by producing a lossless-join 3NF schema that preserves functional dependencies. Per Dr. Tu: Do *not* do Task 4.

**Table Person**:

· This table is in 3NF because pers\_id is a superkey

· pers\_id --> last\_name, first\_name, mi, address1, address2, zip, email, gender is a trivial functional dependency

**Table Zip\_Code**

· This table is in 3NF because zip is a superkey

· zip --> city, state is a trivial functional dependency

**Table person\_phone\_number:**

· This table is in 3NF because pers\_id is a superkey

· pers\_id --> phone, phone\_number\_type is a trivial functional dependency

**Table course**

· This table is in 3NF because c\_code is a superkey

· c\_code --> title, training\_level, description, status, retail price, train\_type is a trivial functional dependency

**Table prerequisite\***

· This table is in 3NF because c\_code is a superkey

· c\_code → prereq\_code a trivial functional dependency

**Table GICS**

· This table is in 3NF because primary\_sector\_code is a superkey

· primary\_sector\_code → code\_name, code\_description, parent\_sector\_code a trivial functional dependency

**Table company \*\*\*WE DECOMPOSED THIS ONE. Took out city and state\*\*\*** · This table is in 3NF because comp\_id is a superkey

· comp\_id →comp\_name, address1, address2, zip, primary\_sector\_code, phone, website

**Table company\_specialty**

· This table is in 3NF because comp\_id is a superkey

· comp\_id → specialty a trivial functional dependency

**Table training\_provider**

· This table is in 3NF because comp\_id is a superkey

· comp\_id → train\_type a trivial functional dependency

**Table NWCET**

· This table is in 3NF because nwcet\_code is a superkey

· nwcet\_code → parent\_nwcet\_code, nwcet\_title, description a trivial functional dependency

**Table know\_skill**

· This table is in 3NF because ks\_code is a superkey

· ks\_code → nwcet\_code, ks\_title, description, training\_level a trivial functional dependency

**Table provides\_skill**

· This table is in 3NF because ks\_code is a superkey

· ks\_code → c\_code a trivial functional dependency

**Table job\_category**· This table is in 3NF because cat\_code is a superkey

· cat\_code--> parent\_cat\_code, job\_category\_title, description, pay\_range\_high, pay\_range\_low is a trivial functional dependency

**Table position**

· This table is in 3NF because pos\_code is a superkey

· pos\_code--> comp\_id, pos\_title, emp\_mode, cat\_code, pay\_rate, pay\_type is a trivial functional dependency

**Table position\_skills**

· This table is in 3NF because ks\_code, pos\_code is a superkey

· ks\_code, pos\_code --> prefer is a trivial functional dependency

**Table section**

· This table is in 3NF because c\_code, sec\_code, complete\_date is a superkey

· c\_code, sec\_code, complete\_date --> offered\_by, format is a trivial functional dependency

**Table cert**

· This table is in 3NF because cert\_code is a superkey

· cert\_code→ cert\_name, issued\_by, tool is a trivial functional dependency

**Table position\_cert**

· This table is in 3NF because cert\_code, pos\_code is a superkey

· cert\_code, pos\_code → prefer is a trivial functional dependency

**Table works**

· This table is in 3NF because pos\_code, pers\_id is a superkey

· pos\_code, pers\_id → start\_date, end\_date is a trivial functional dependency

*References*:

https://www.essentialsql.com/get-ready-to-learn-sql-11-database-third-normal-form-explained-in-simple-english/

https://en.wikipedia.org/wiki/Third\_normal\_form#%22Nothing\_but\_the\_key%22