

- a) FACTORY is in 1NF since each ID can have one unique FACTORY_NAME and FACTORY_ACCOUNT_NO and each FACTORY_ID can also only have one unique BANK_NAME and BANK_CODE_NO
- b) $\{ID\} \rightarrow \{FACTORY_NAME, FACTORY_ACCOUNT_NO\}$
 $\{BANK_CODE_NO\} \rightarrow \{BANK_NAME\}$
 $\{FACTORY_ACCOUNT_NO\} \rightarrow \{BANK_NAME, BANK_CODE_NO\}$
- c) There is no subset to the candidate key since $\{ID\}$ is the only attribute, so the relation is in 2NF.
- d) There is a transitive functional dependency on $\{ID\} \rightarrow \{BANK_NAME, BANK_CODE_NO\}$, so the relation is not in 3NF.
First, create a new relation with all the attributes except for those that are transitively dependent.
FACTORY(ID, FACTORY_NAME, FACTORY_ACCOUNT_NO)
Then, create a new relation with the transitively dependent attribute using the original functional dependency as the primary key.
FACTORY2(FACTORY_ACCOUNT_NO, BANK_NAME, BANK_CODE_NO)