

Question 1: post_id, user_id_rating is the combination of column that would make up the primary key.

Question 2:

a)

post_id → topic_id

post_id → topic_date

post_id → post_date

post_id → topic

post_id → post

post_id → category_id

post_id → category_name

post_id → user_id_author

post_id → username

post_id → email

post_id, user_id_rating → rating

b)

**Just a heads up the underlining for the primary key columns covers parts of their names like the “_” character.

Original table before changes:

Table (post_id, user_id_rating, topic_id, topic_date, post_date, topic, post, category_id, category_name, user_id, username, email, rating)

Newly made/changed tables:

New table:

Posts (post_id, topic_id, topic_date, post_date, topic, post, category_id, category_name, user_id_author, username, email)

Ratings (user_id_rating, post_id, rating)

Question 3:

a)

post_id → topic_id → topic_date, topic, category_id

post_id → category_id → category_name

post_id → user_id_author → username, email

b)

New and old tables:

Ratings (user_id, rating, post_id, rating)

Posts (post_id, topic_id, post_date, post, user_id_author)

Topics (topic_id, topic_date, topic, category_id)

Categories (category_id, category_name)

Users (user_id, author, username, email)

4. Yes, they all meet the requirements of Boyce_Codd normal form. This is because each non-primary key column is determined by the primary key and has no other dependencies with anything else in each table.