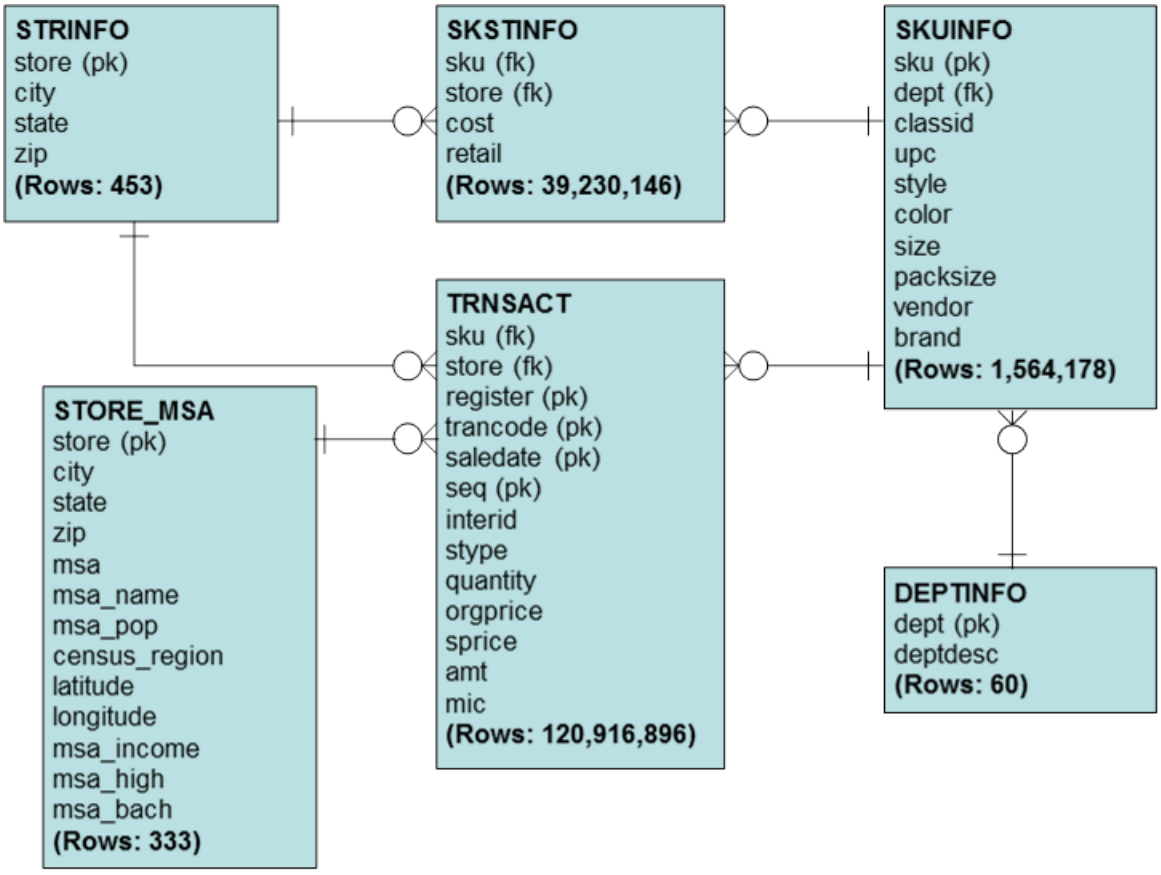
Dillard's Database Relational Schema Practice Questions

The relational schema we were given for the Dillard's database that we will be using in upcoming weeks of this course is provided below. The diagram has a slightly different format than other relational schemas we've seen so far, because it includes cardinality information between the primary key in one table, and the foreign key(s) in another table. Inspect the diagram, and answer the questions at the bottom of the page.



Questions:

1. What column(s) would you need to use to link the TRNSACT and STORE_MSA tables?
2. There is not a line connecting the TRNSACT and SKSTINFO tables in the diagram, but it is still possible to combine information from the two tables via their shared columns. What column(s) would you need to use to link the TRNSACT and SKSTINFO tables?
3. What column(s) comprise(s) the primary key of the TRNSACT table?
4. The TRNSACT and SKSTINFO tables have foreign keys to both the STRINFO (store info) and SKUINFO (sku info) tables. What can you infer about the relationship between stores and sku numbers?
5. How would you interpret the information provided by the cardinality symbols in the diagram?

Answers:

1. Store
2. Sku and Store (you would need them both)
3. Register, trancode, and saledate, and seq (that means that you need all four to identify a unique transaction!)
4. Stores and skus have a many-to-many relationship: stores have many different skus in their merchandise, and skus can be present in many different stores
5. The single line symbol can be interpreted as "must have a minimum of, but can have no more than, 1". Therefore, transactions can occur in exactly one store with exactly one metropolitan statistical area ("store_msa"). A store in the store info ("strinfo") table will not necessarily have a store_msa associated with it (because there is no line connecting the two tables). Each transaction has exactly one sku, which will be housed in exactly one department. Each store, store_msa, sku, and department can appear in many transactions, but does not have to appear in any. Each department can have many skus, but does not have to have any.