**1. Give an informal definition of “database” as used in the expression “relational database management system.”**

-The informal definition of Database in RDBMS are the tables that store related data that is accessed when other information in referenced.

**2. Give an informal definition of “database” as used in the expression “Human Resources database.”**

-The informal definition of database in a human resources database is a place where transactions relating to payroll processing, position management, time and attendance, recruitment, benefits, and other human resources data collection protocols are recorded, stored, and retrieved in a variety of ways.

**3. Give an informal definition of entity integrity.**

-Entity integrity is an informational constraint provided by candidate keys.

**4. Give an informal definition of referential integrity.**

-Referential integrity is an informational constraint provided by foreign keys.

**5. What is a relation as defined in the textbook? A one-word answer to this question is sufficient.**

-A table.

**6. Is this table is first normal form? Why or Why not? If it is not, how would you change it?**

-No, the table is not in 1NF because there is more than one data type in the facCreds column. To fix this, you would have to create a second table in 2NF with the primary key being the facCreds and then create a dependent key referencing the facName from the first table. You would also remove the facCreds column from the first table.

**7. Is this table in second normal form? Why or Why not? If it is not, how would you change it?**

-No, the table is not in 2NF because there is transient dependency between the petID and the petType. This would be fixed by removing the petID and petType columns and placing then into their own table in 1NF and reference the petID as the primary key in the new table.

**8. Is this table in third normal form? Why or Why not? If it is not, how would you change it?**

-Yes, the table is in 3NF.

**9. What is an OLTP database? What operations is it optimized for?**

-OLTP is an Online Transactional Processing database. The operations that it is optimized for are data entry such as insertion, deletion, and updating.

**10. What is a star schema? What operations is it optimized for?**

-A star schema is the simplest data-warehouse design. The operations they are optimized for are simpler querying, simpler business reporting logic, and query performance gains because star schemas are denormalized. They are also optimized for faster aggregations.