Describe when you should use a relational database and why. Describe when you should use a non-relational database and why. In which scenarios should you use one vs the other? Give at least two examples of each.

Non-relational database does not store data in tabular form. Flexible schemas and scale easily with large amounts of data and high user loads. Data partitioned across multiple machines to scale. Relational databases assume data stays on one machine. CAP theorem, less mismatch between objects in programming language and a table in a relational database sense. Mechanisms for storage and retrieval of data which are modeled different than tabular. According to CAP theorem, with partitioning, there is choice between consistency and availability; MongoDB only recently gained ACID transaction support. A car object can be stored in one document in MongoDB, but in relational database, the information for the car object may be spread throughout multiple tables.

Use non-relational databases when working with data that changes frequently, cloud computing, and promoting developer productivity. Document model is well suited to polymorphic data that can change frequently.