1. What is Big Data? Give a brief definition.

   Big Data is a set of data that has a huge volume, velocity, and variety so that the relational database management system cannot handle them properly.

2. What are the traditional 3 Vs of Big Data? Briefly, define each.

- Volume: The quantity of data to be stored.
- Velocity: The speed at which data is entering the system and how fast the data can be read from the system.
- Variety: The variations in the structure of the data to be stored.

3. Explain the difference between *scaling up* and *scaling out*.

   Scaling up means when a server cannot meet the load capacity requirement, we upgrade its hardware to a faster and larger one. Scaling out means we do not make any change to the original server but instead we will add another (or more) servers to split the load on new servers.

4. What are the four basic categories of NoSQL databases?

   Key-value database, Document database, Column-oriented database, and graph database.

5. How are the value components of a key-value database and a document database different?

   Key-value database's value component can store any type of data, but a document database always stores a document in the value component. Which can be in any encoded format, such as XML, JSon (JavaScript object notation), or bSon (binary JSon).