Database and Datamodeling

Day 1: Assignment 1

1. Banking Database
   - It uses relational database like SQL\Postgre for maintaining their records.
   - SQL is a perfect fit for this use case since banking data is maintained in a structured way and it requires to follow the ACID properties in order that their data remains valid throughout and secure.
   - Any mishap in the data maintenance will directly result to loss of money for their customer ultimately losing trust in its customers.

2. Real-Time GPS tracking
   - It uses in memory database (IMDB) for storing the location of the user.
   - IMDB is the only logical fit seeing that the real time tracking requires continuous rewriting of location coordinates into the memory…traditional disk-based databases would easily crash under this situation. IMDB stores the location in the cache memory and then rewrites it in microseconds…making it ideal for real time location tracking.

3. Amazon Sale cart control
   - It uses NoSQL since during the sale-time the traffic is huge and speed is required for this.
   - In the case of Amazon, it uses DynamoDB for this purpose since it is able to manage large amount of unstructured data in milliseconds.
   - Consider being a customer at the time of Prime Day Sale, you are one of the million customers that are buying stuffs from the platform…and it has to be quick too since if there is even a bit of lag, the items you ought to purchase may go out of stock. For this purpose, NoSQL database is a perfect fit helping you shop without worrying about the lag in cart updation.