## **Geo Distributed LRU:**

- 1. **Cache:** Think of a cache like a temporary storage space in a computer's memory. It's used to store frequently accessed data so that future requests for that data can be served faster.
- 2. **Geo Distributed:** This means that the cache is spread out over different locations (geographies). So, instead of having one big cache in one place, you have multiple caches in different areas to make data access faster for people in those areas.
- 3. **LRU (Least Recently Used):** LRU means that if the cache gets full, it will remove the least recently used data to make space for new data. This helps ensure that only the most important or frequently used data is kept in the cache.
- 4. **Time Expiration:** Data in the cache doesn't stay there forever. It has a "time limit" after which it's considered old and gets removed automatically. This is useful because some data becomes outdated and shouldn't be kept in the cache forever.

## **Code Explanations:**

- 1. GeoDistributedCache is a class that represents our cache system. cache is where we store our data (like a dictionary where you can look up data by a key).
- 2. defaultExpirationTime is how long data can stay in the cache by default (in milliseconds).

## What the code can do:

- 1. You can put data into the cache using a key and a value. For example, you might put a web page's content in the cache with a key like "webpage123" and the actual content as the value.
- 2. You can also specify how long this data should stay in the cache before it's considered old (expires).
- 3. You can retrieve data from the cache using its key.
- 4. You can remove data from the cache when you don't need it anymore.
- 5. You can even clear out old data automatically.