LevelDB-Study

Team_Cache Code Analysis

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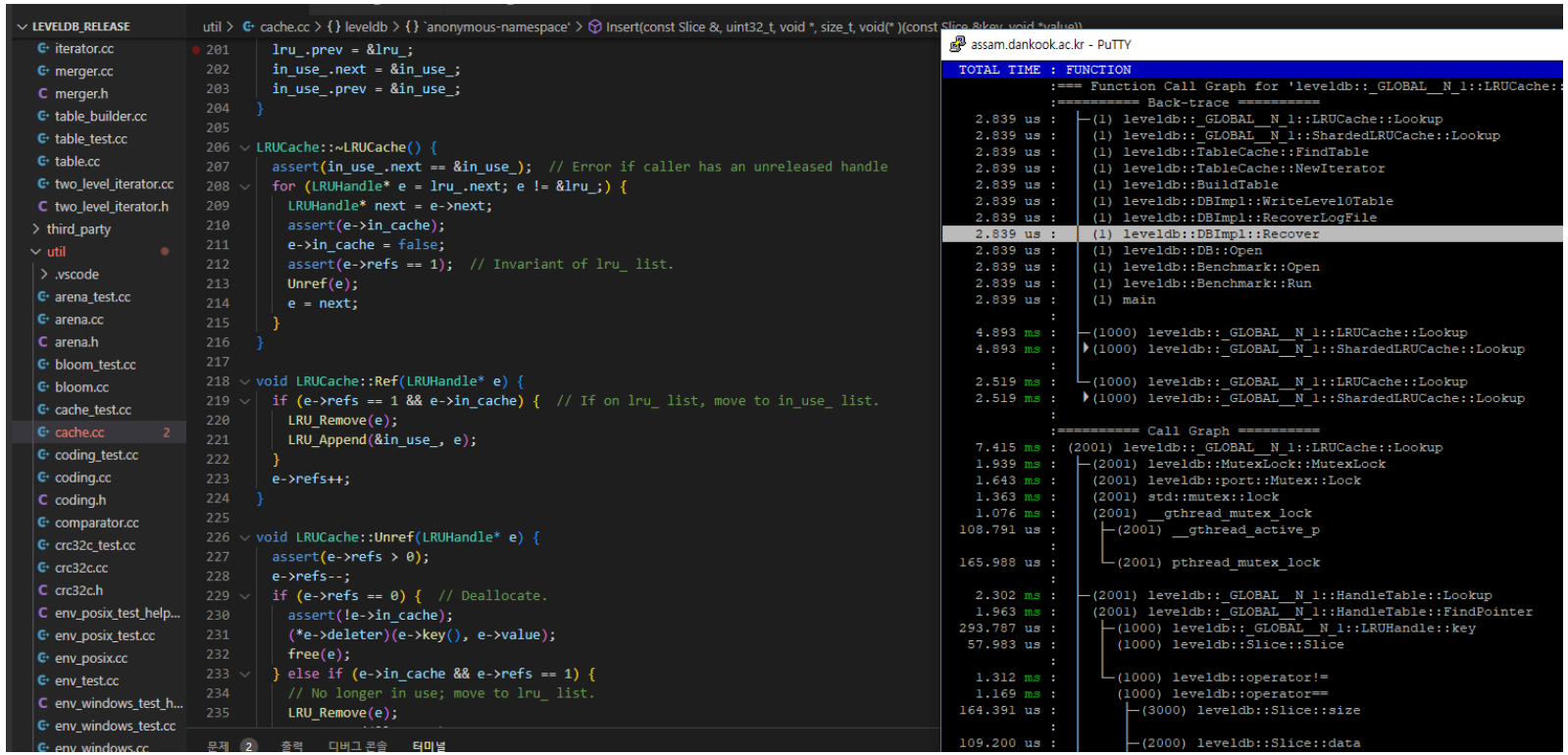
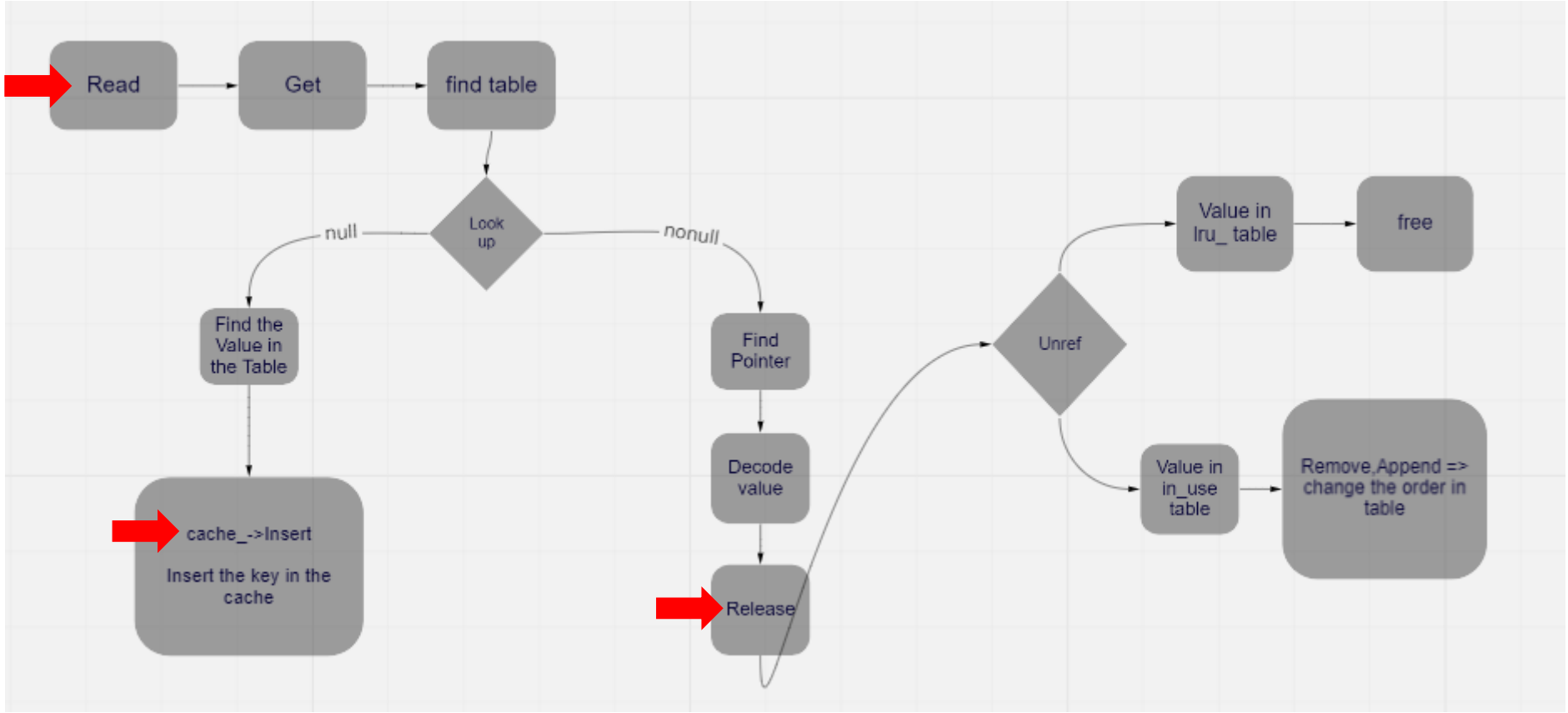
  -Read, Insert, Delete

How to Understand



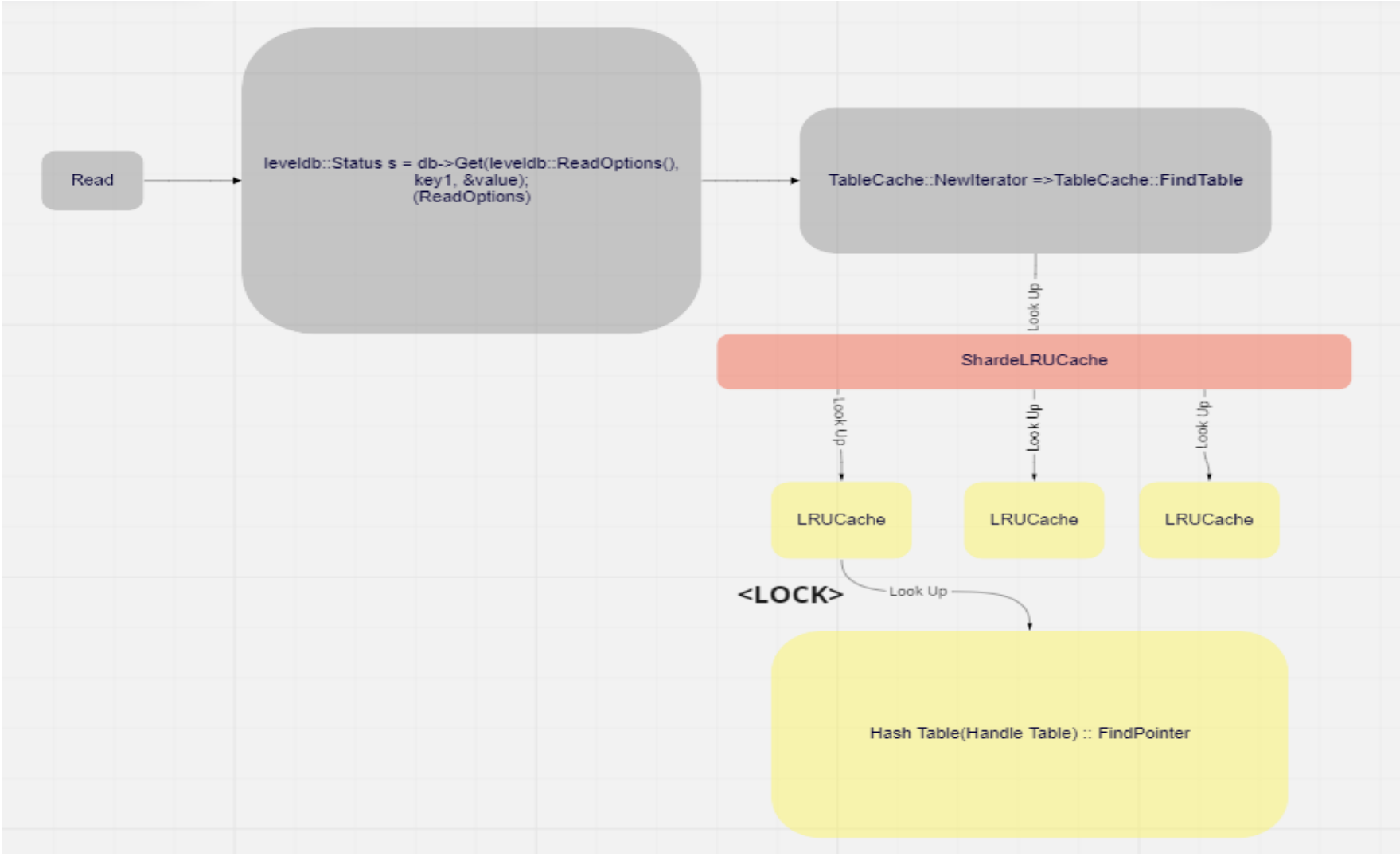
- Use uftrace tui to understand flow of the functions
- Look up the code to understand the function’s function

Overall cache flow chart



Code flow

- (1)Read flow



Code flow

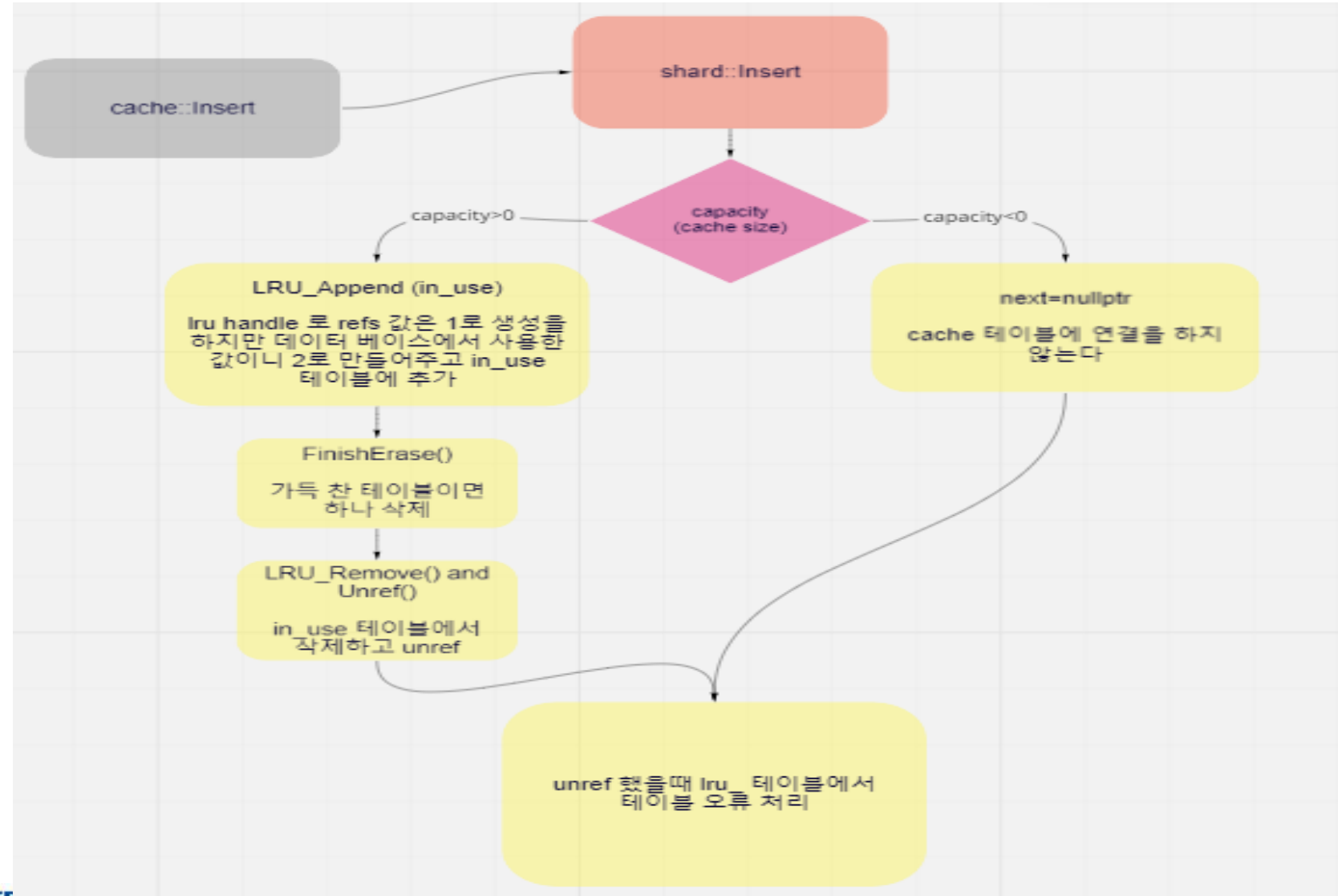
- (1)Read flow

-uftrace tui

```
  6.214 ms  :   ├─(1000) leveldb::_GLOBAL__N_1::ShardedLRUCache::Lookup
  6.214 ms  :   (1000) leveldb::TableCache::FindTable
  6.214 ms  :   (1000) leveldb::TableCache::Get
  6.214 ms  :   (1000) leveldb::Version::Get::State::Match
  6.214 ms  :   (1000) leveldb::Version::ForEachOverlapping
  6.214 ms  :   (1000) leveldb::Version::Get
  6.214 ms  :   (1000) leveldb::DBImpl::Get
  6.214 ms  :   (1000) leveldb::Benchmark::ReadRandom
```

Code flow

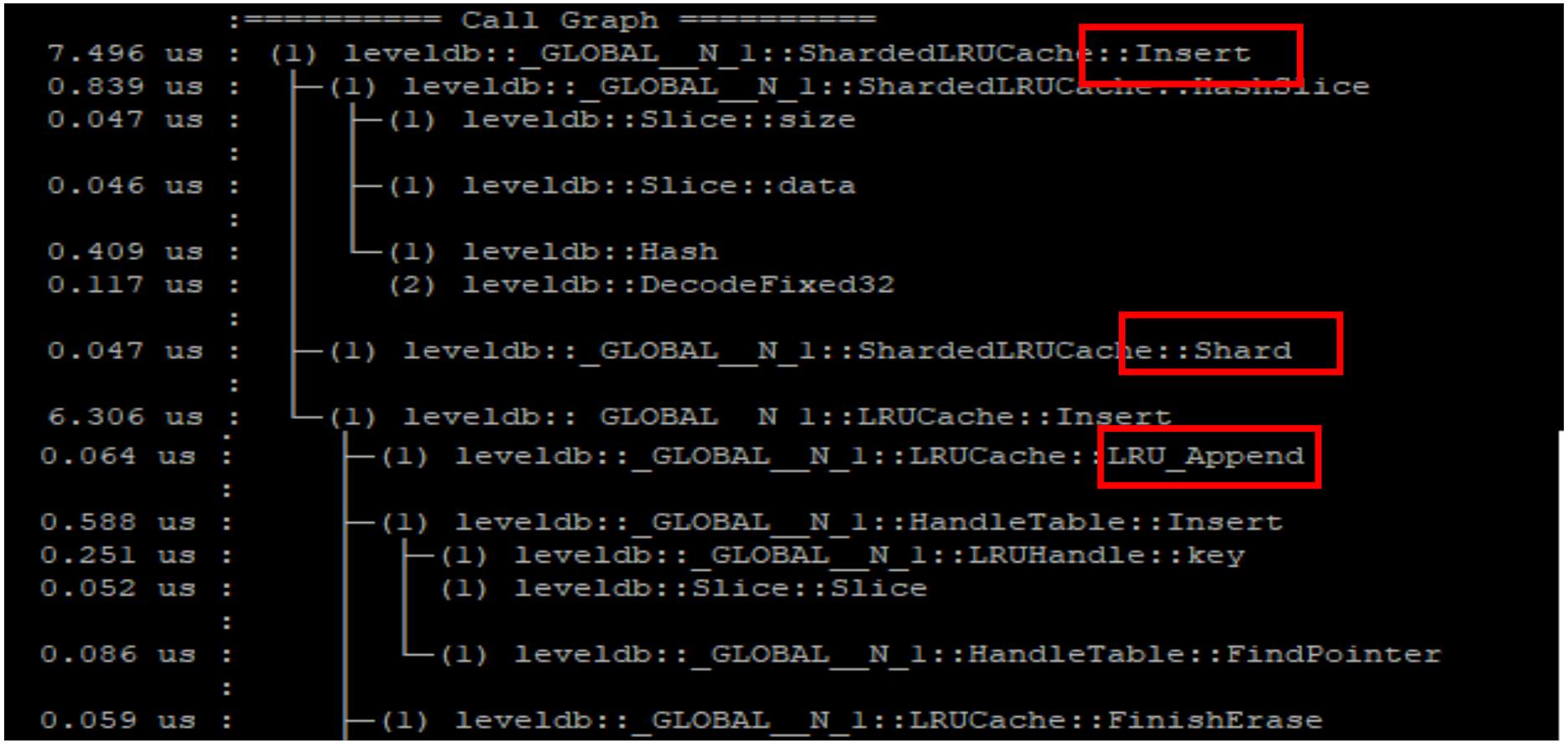
- (2)Insert flow



Code flow

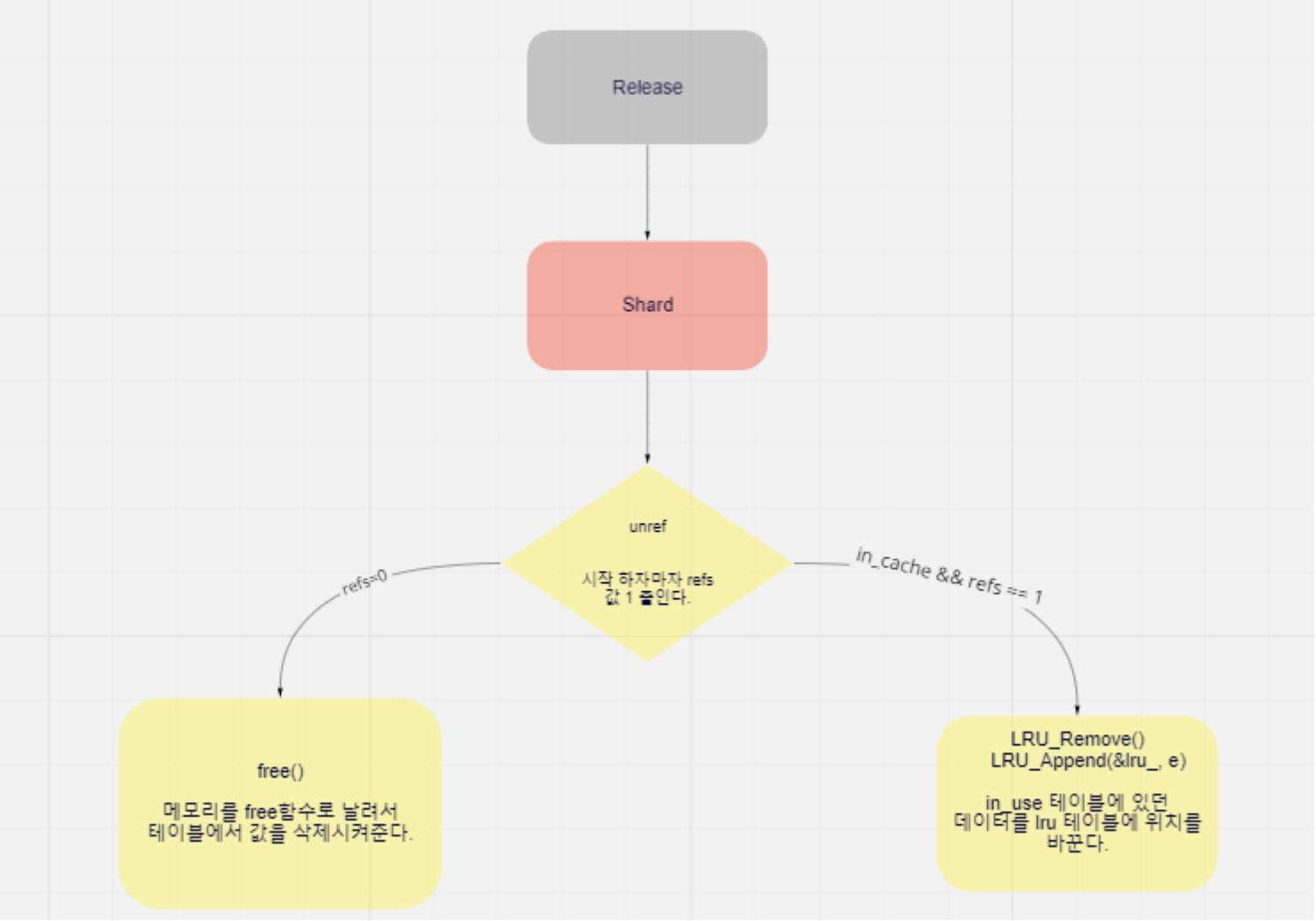
- (2) Insert flow

-uftrace tui



Code flow

- (3) Release(call by=unref entry, Get()) flow



Code flow

- (3) Release(call by=unref entry, Get()) flow

-uftrace tui

```
            :========== Call Graph ==========
  3.040 ms  : (1001) leveldb::_GLOBAL__N_1::ShardedLRUCache::Release
 52.702 us  :   ├─(1001) leveldb::_GLOBAL__N_1::ShardedLRUCache::Shard
            :   │
  2.704 ms  :   └─(1001) leveldb::_GLOBAL__N_1::LRUCache::Release
979.511 us  :     ├─(1001) leveldb::MutexLock::MutexLock
837.634 us  :     │  (1001) leveldb::port::Mutex::Lock
699.408 us  :     │  (1001) std::mutex::lock
557.612 us  :     │  (1001) __gthread_mutex_lock
 53.313 us  :     │    ├─(1001) __gthread_active_p
            :     │    │
 80.146 us  :     │    └─(1001) pthread_mutex_lock
            :     │
438.387 us  :     ├─(1001) leveldb::_GLOBAL__N_1::LRUCache::Unref
 60.208 us  :     │  ├─(1001) leveldb::_GLOBAL__N_1::LRUCache::LRU_Remove
            :     │  │
 59.521 us  :     │  └─(1001) leveldb::_GLOBAL__N_1::LRUCache::LRU_Append
            :     │
945.972 us  :     └─(1001) leveldb::MutexLock::~MutexLock
812.058 us  :        (1001) leveldb::port::Mutex::Unlock
675.718 us  :        (1001) std::mutex::unlock
533.670 us  :        (1001) __gthread_mutex_unlock
 53.276 us  :          ├─(1001) __gthread_active_p
            :          │
 78.413 us  :          └─(1001) pthread_mutex_unlock
```

Q&A