SSTable

Sanghyun Cho, Jongki Park

E-Mail: 98shcho@naver.com

jkipark@dankook.ac.kr

DANKOOK UNIVERSITY

Dankook University
System Software Laboratory

- More about BuildTable() 's role

DANKOOK UNIVERSITY
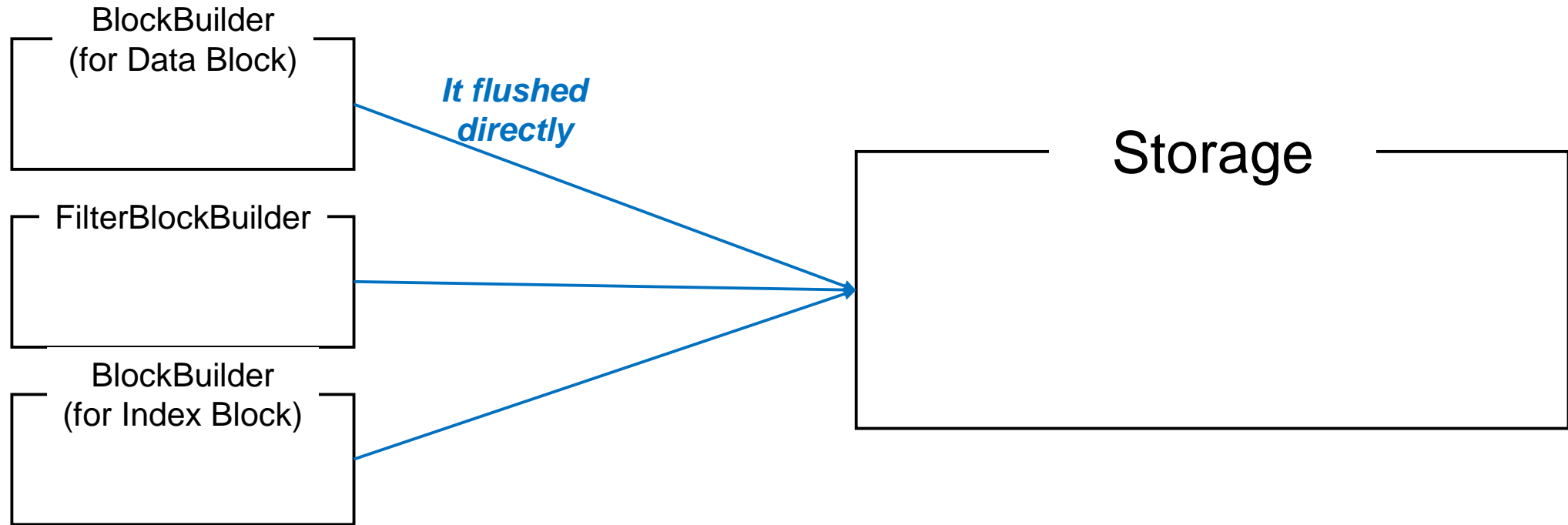
Dankook University
System Software Laboratory

1. Previous week analysis

- Build SSTable with memtable 's iterator in minor compaction

  - SSTable's name is meta->number

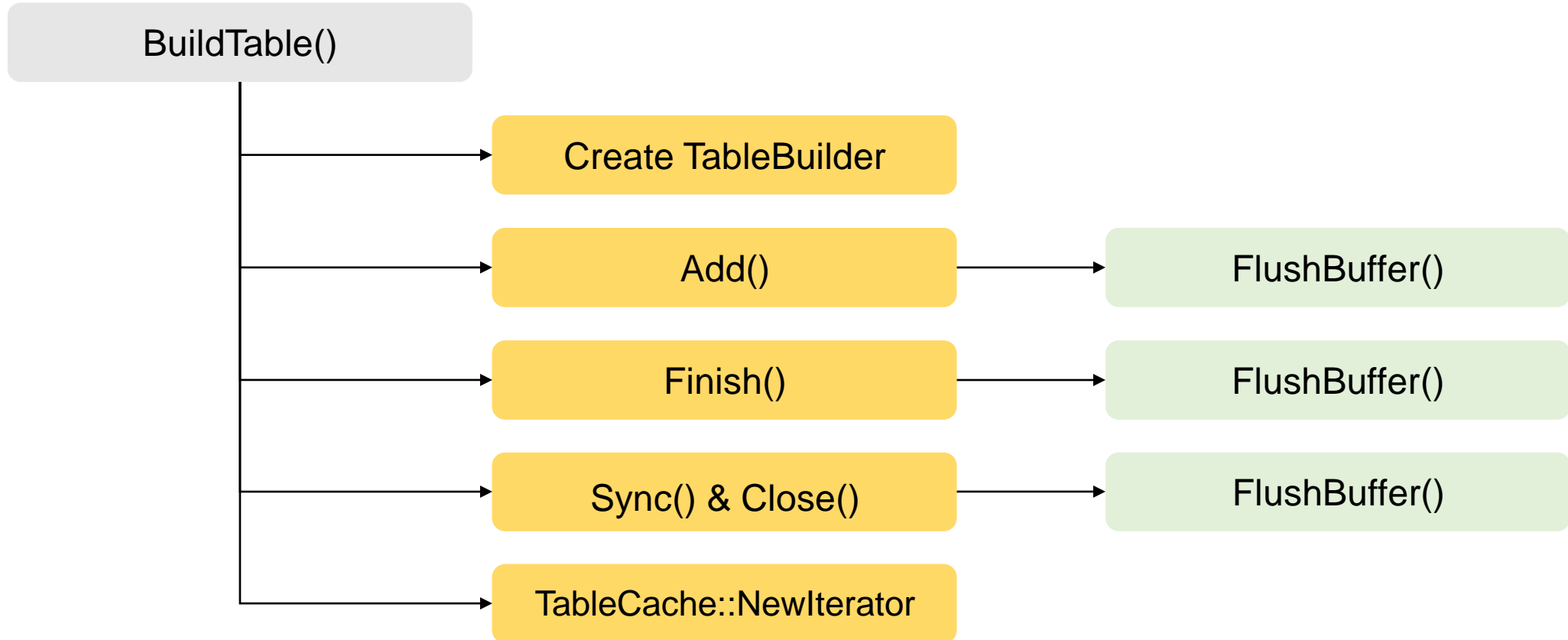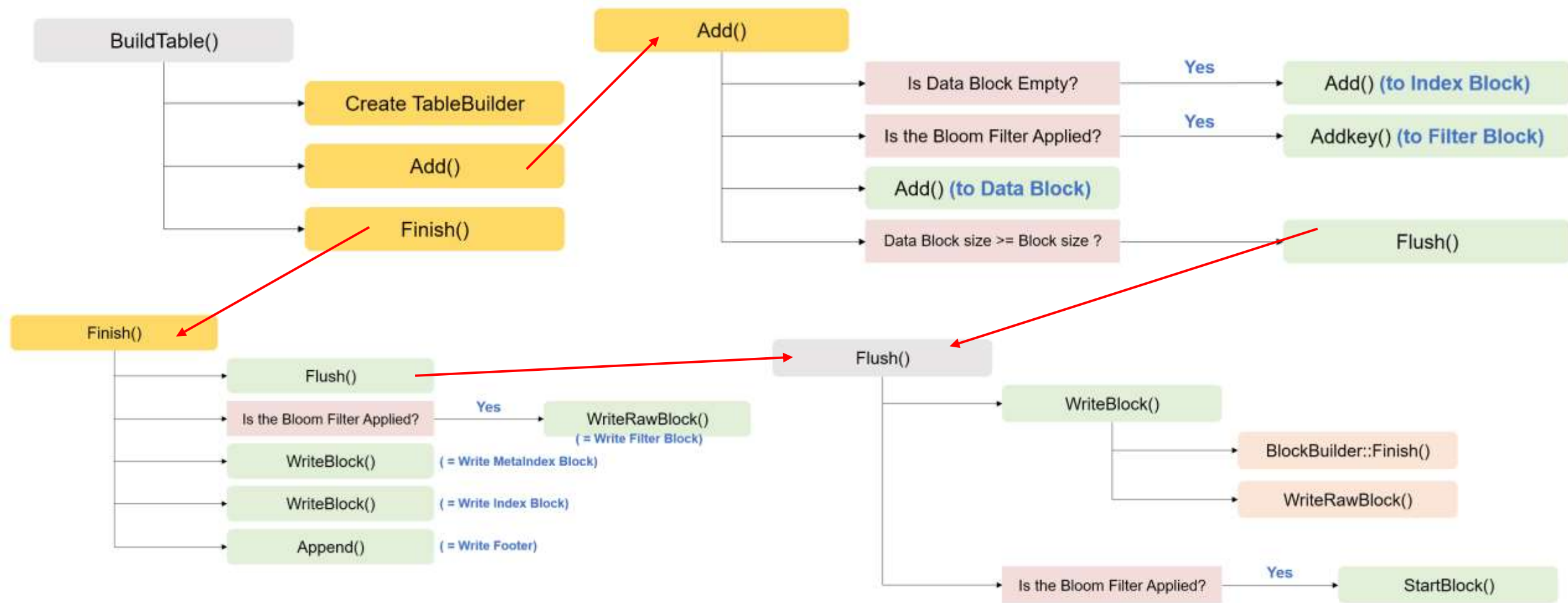# Previous week analysis

BlockBuilder
(for Data Block)

It flushed directly

FilterBlockBuilder

BlockBuilder
(for Index Block)
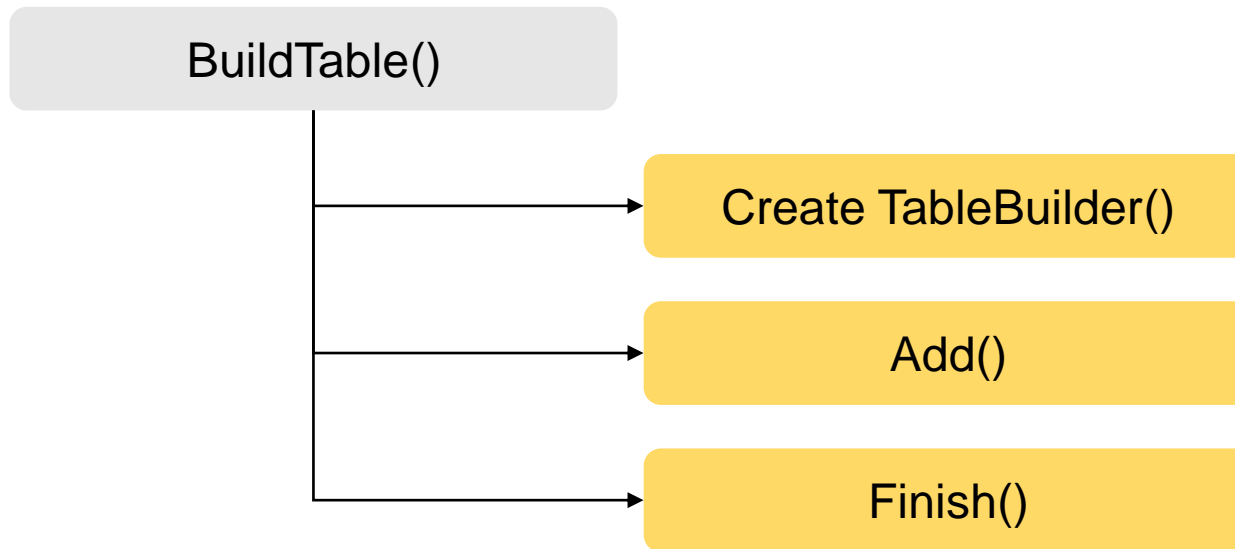
Storage

Actually, It was not!!

2. Writable file to SSTable

BuildTable()

Create TableBuilder

Add() → FlushBuffer()

Finish() → FlushBuffer()

Sync() & Close() → FlushBuffer()

TableCache::NewIterator
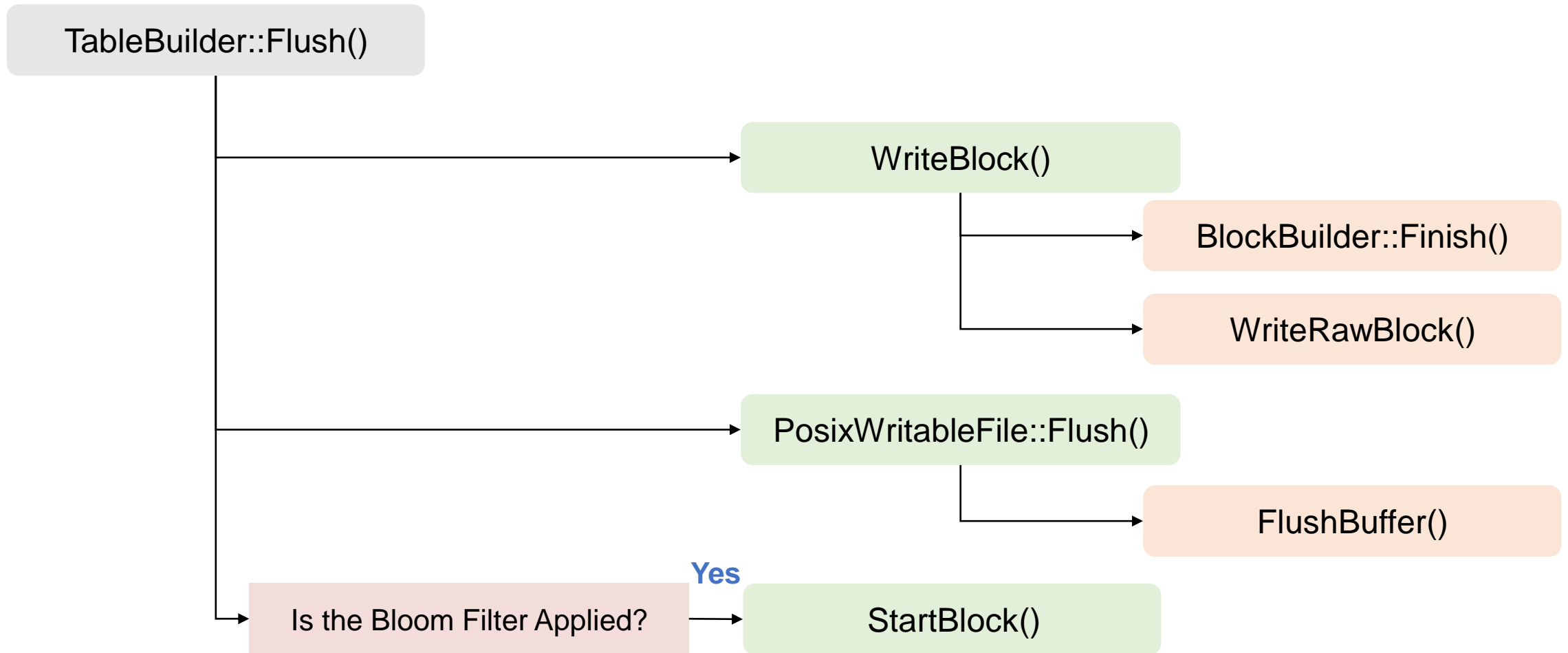
DKU DANKOOK UNIVERSITY

Dankook University
System Software Laboratory

Writable file to SSTable

Writable file to SSTable

Writable file to SSTable

PosixWritableFile::Sync()

SyncDirIfManifest()

FlushBuffer()

WriteUnbuffered()

Write(System Call)

Writable file to SSTable

PosixWritableFile::Close()

FlushBuffer()

WriteUnbuffered()

Write(System call)

Close(System call)
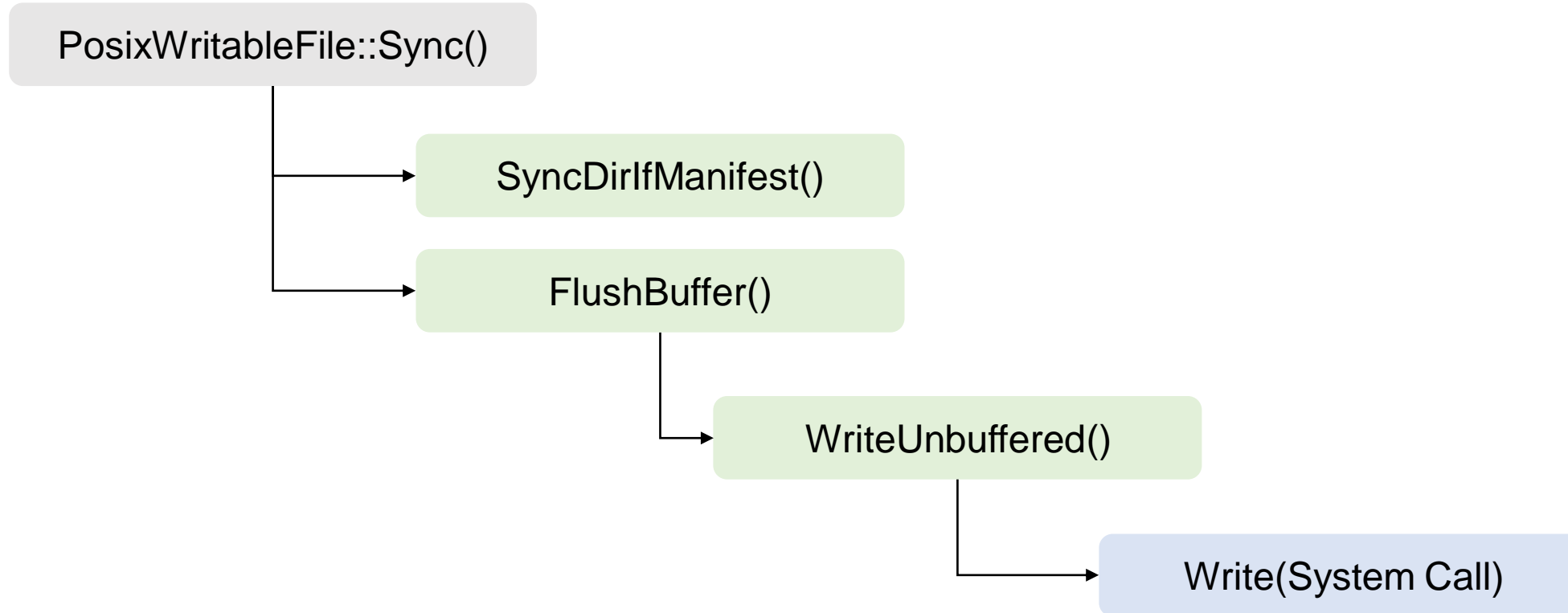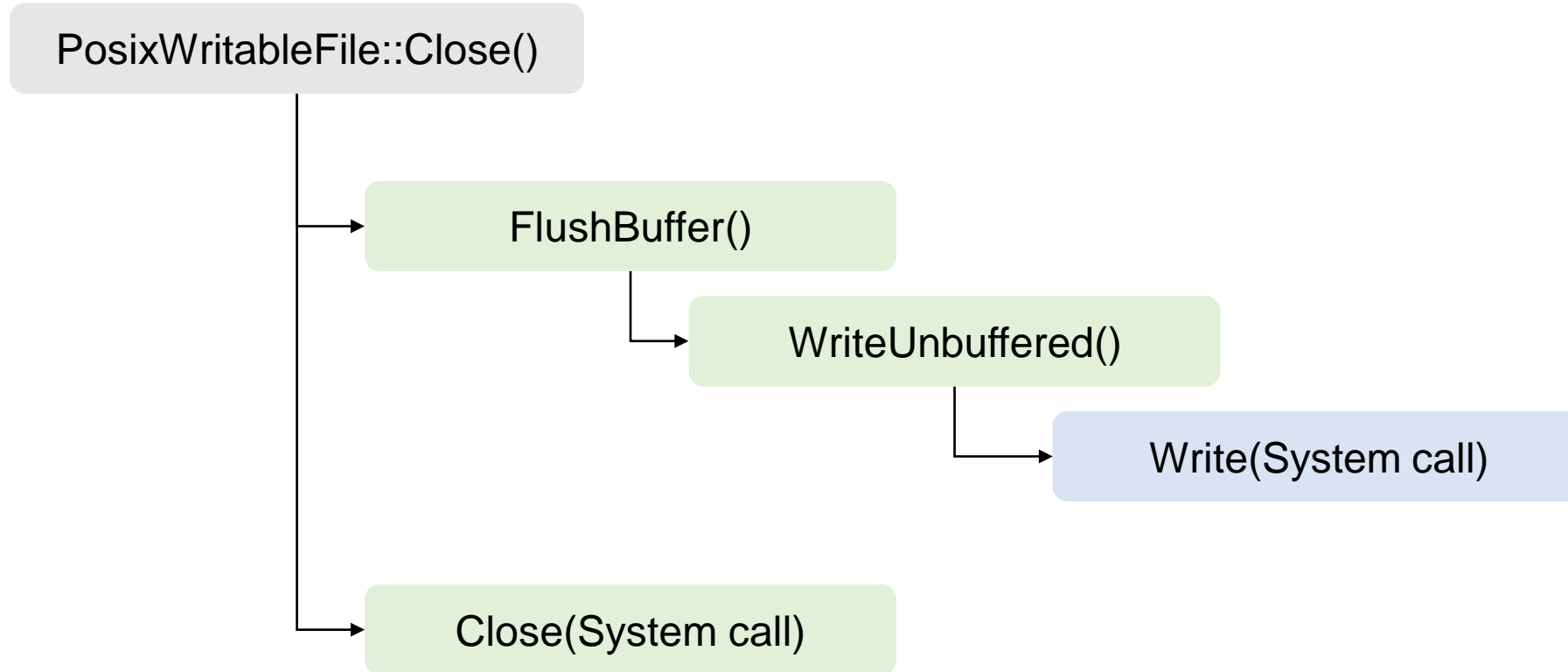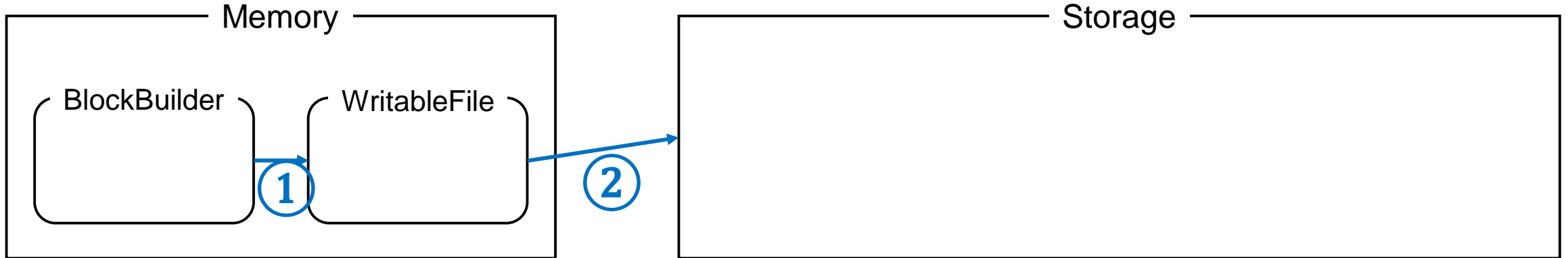
Writable file to "storage SSTable"

1. Block contents are first stored in a "WritableFile"
2. Later, WritableFile`s contents are flushed.

Memory
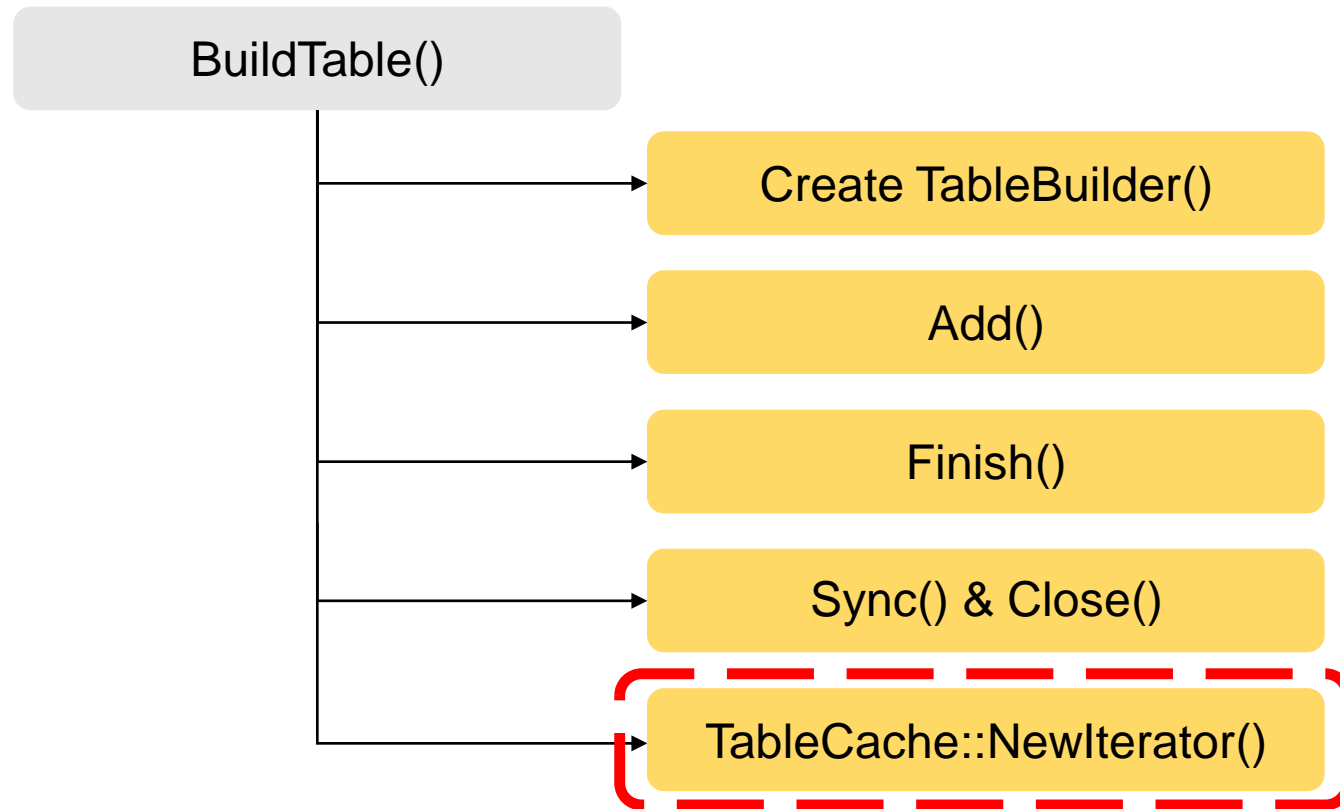
BlockBuilder → ① WritableFile

② → Storage

But..
- ✓ Data Block : flushed one by one
- ✓ Other Blocks : flushed together

DANKOOK UNIVERSITY

Dankook University
System Software Laboratory

3. Appendix

BuildTable()

Create TableBuilder()

Add()

Finish()

Sync() & Close()

TableCache::NewIterator()
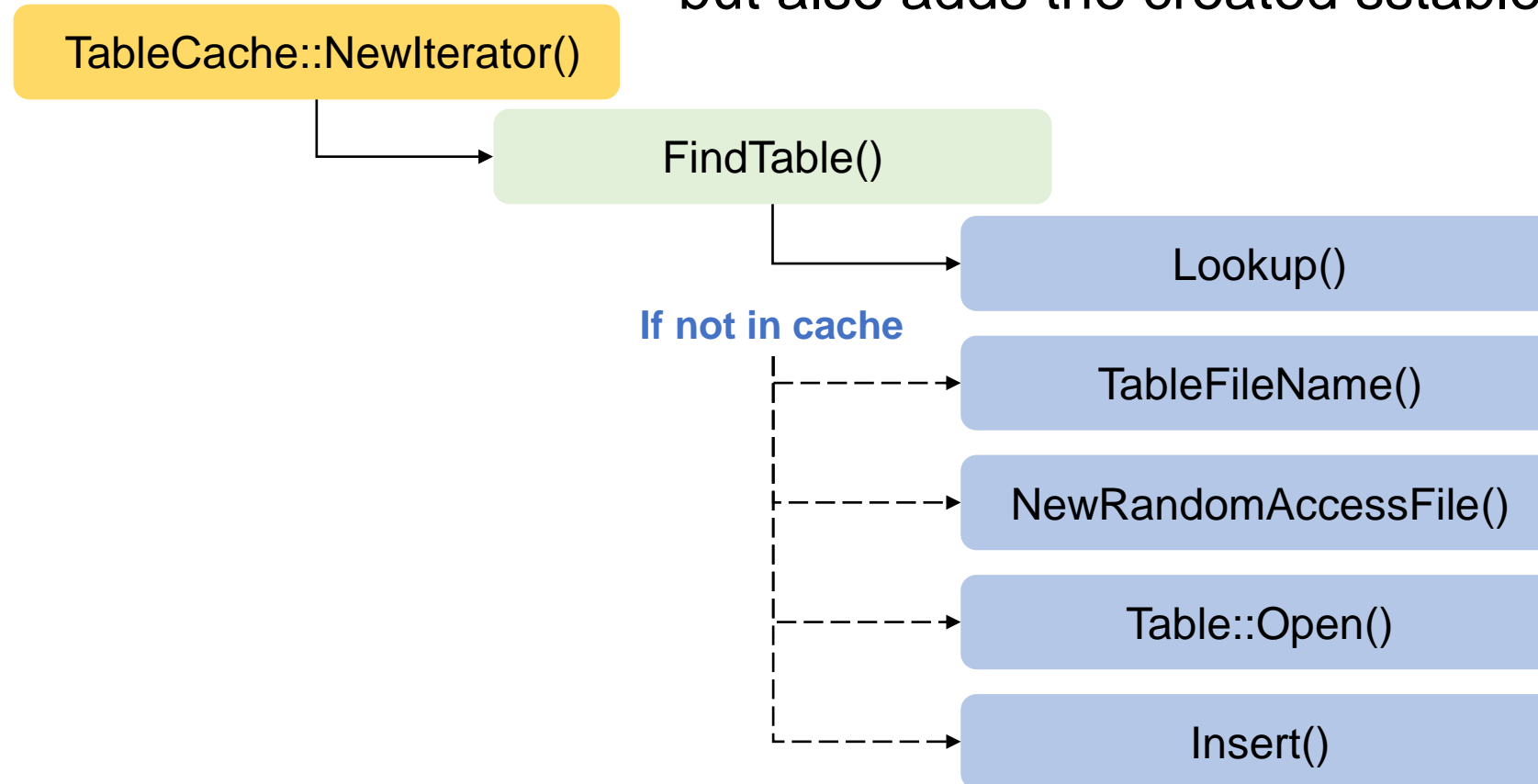
Appendix

- BuildTable() not only creates SSTable,

    but also adds the created sstable to the cache

TableCache::NewIterator()

FindTable()

Lookup()

If not in cache

TableFileName()

NewRandomAccessFile()

Table::Open()

Insert()

DANKOOK UNIVERSITY

Dankook University
System Software Laboratory

Thank you