Architecture project 3

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Flowchart

Execute cycle

init → Print snapshot.rpt → Count miss/hit Of I → Decode inst

Decode inst → Add up PC & cycleCounter → execute → Halt?

Count miss/hit Of D

Halt? → no → Print snapshot.rpt

Halt? → yes → Print report.rpt → finish
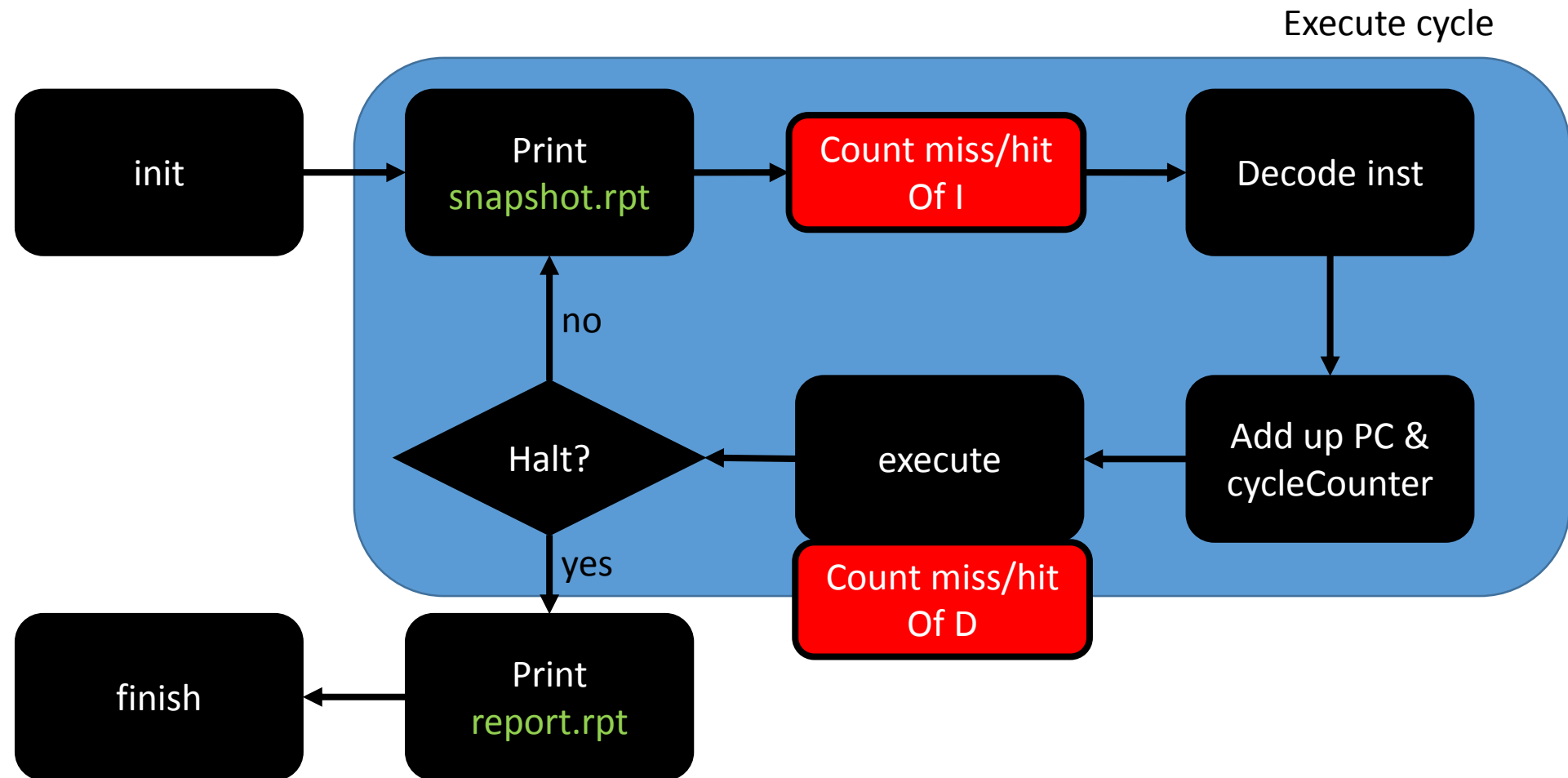
Short cut

- No implement of data path.
- 建立在proj_1的基礎上，插入miss/hit counting function
- 各個table只記錄status，
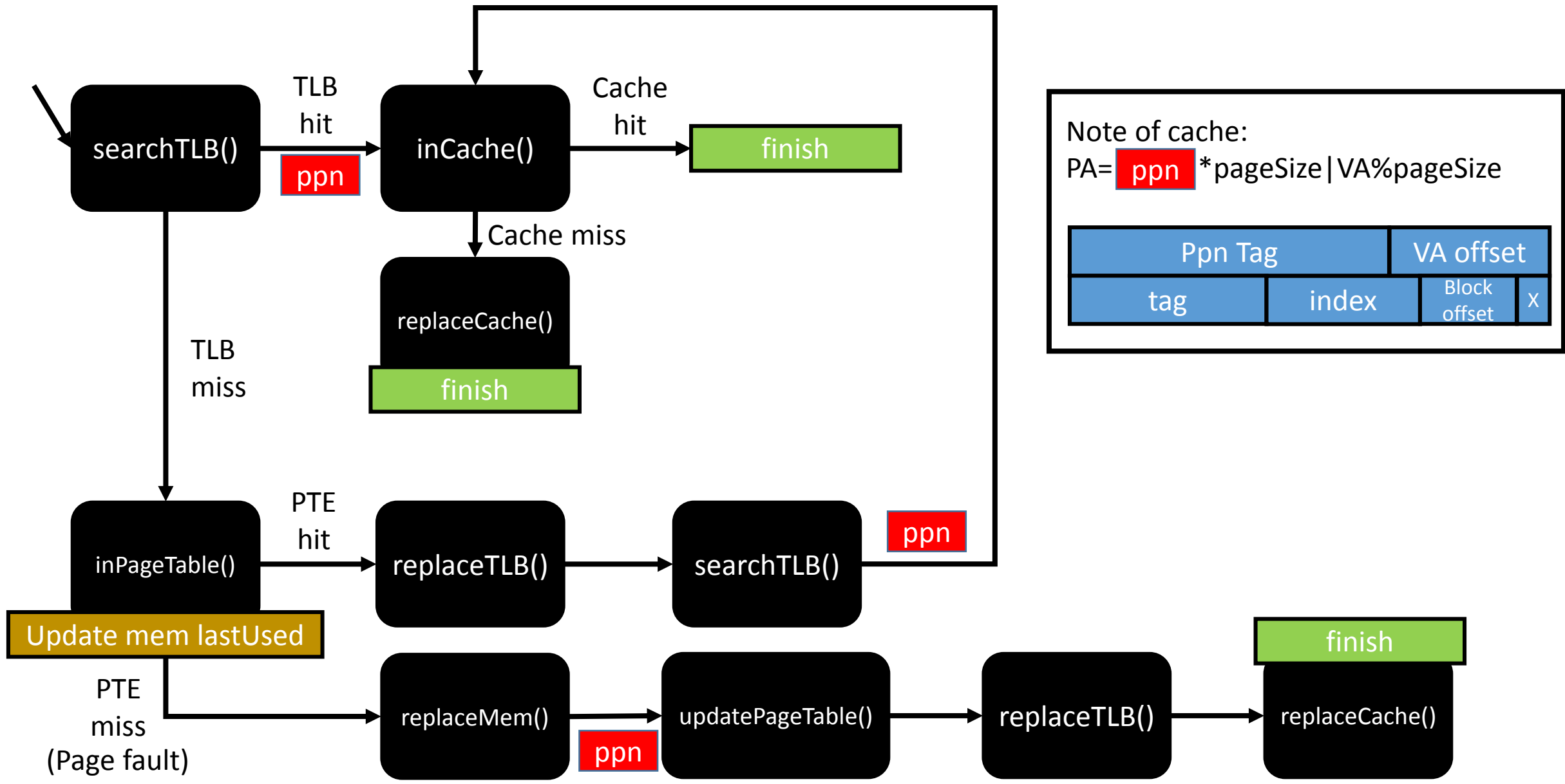 不記錄data(no data, no dirty bits)→no write through/back

Snapshot.rpt 由proj_1的架構來計算

Count miss/hit (1/2)

Instruction: 每個cycle開始時呼叫

Data: 每次使用到load/store時呼叫

Count miss/hit (2/2)

Testcase design

- Aim on Data
- 測試memory last use是否正確更新
- 測試cache bit-pseudo LRU policy
- 測試cache tag/index/block offset 計算
- 測試cache 是否有在memory swap out 時update(valid / MRU)