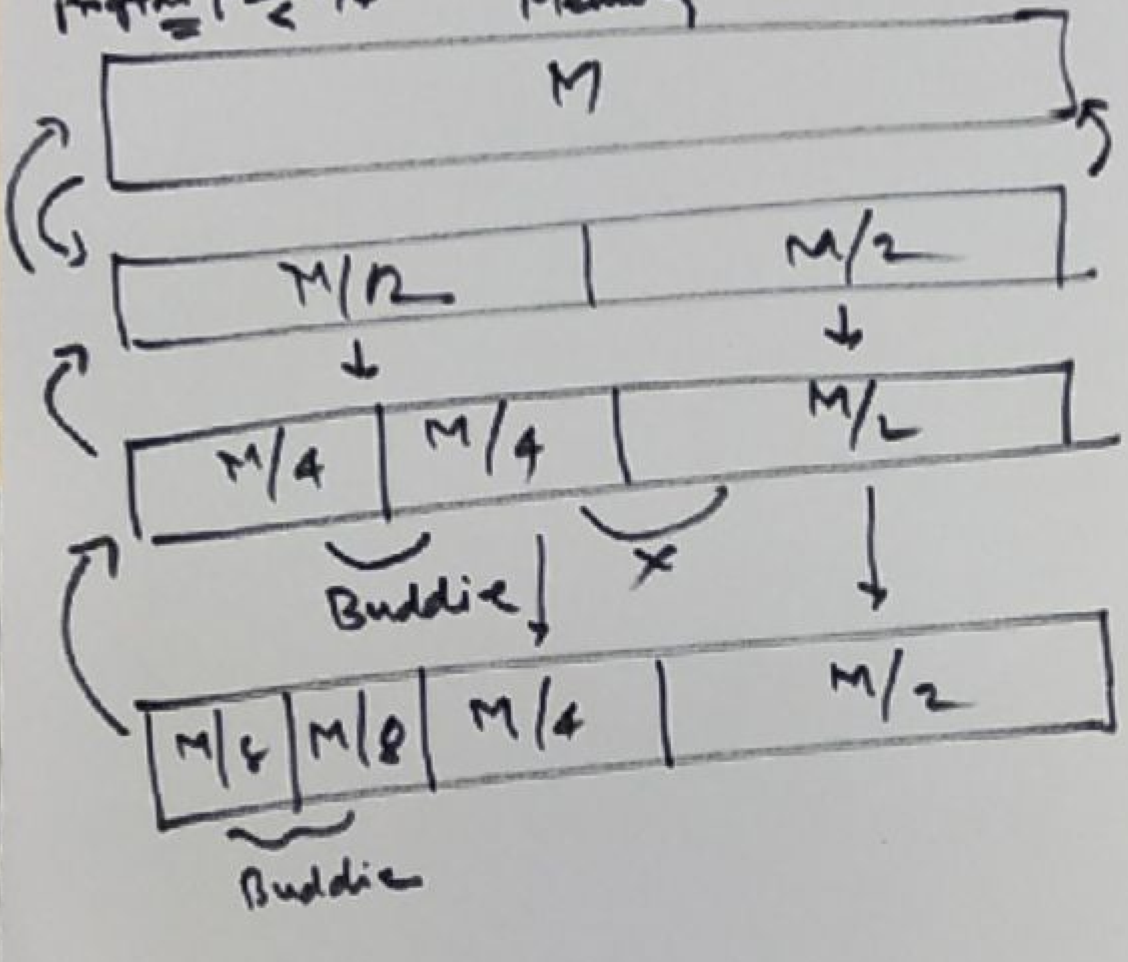
- Buddy System (Contiguous)
  - Partition created. — Dynamically (Buddy)
  - Creation ✓ — Order (n) → Min size of buddy; ↓ division
  - Destroyed ✗

Program P ≤ M/4   Memory



- Buddies get created (restricted by order) till a buddy of size sufficient to fit the incoming program gets created.

Ex 1

$P < M/4 \longrightarrow$ till $M/4$ gets created.

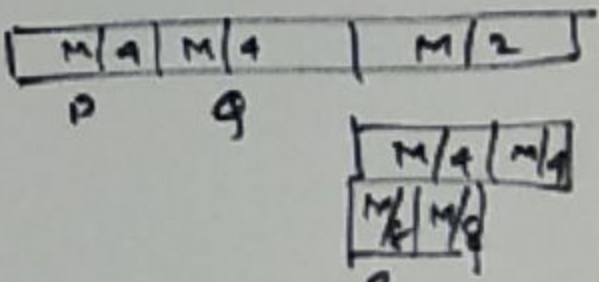
$Q < M/8 \longrightarrow$ create $M/8$

Ex 2

$P < M/4$

$Q < M/4$

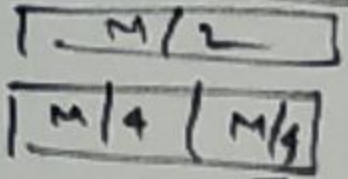
$R < M/8$



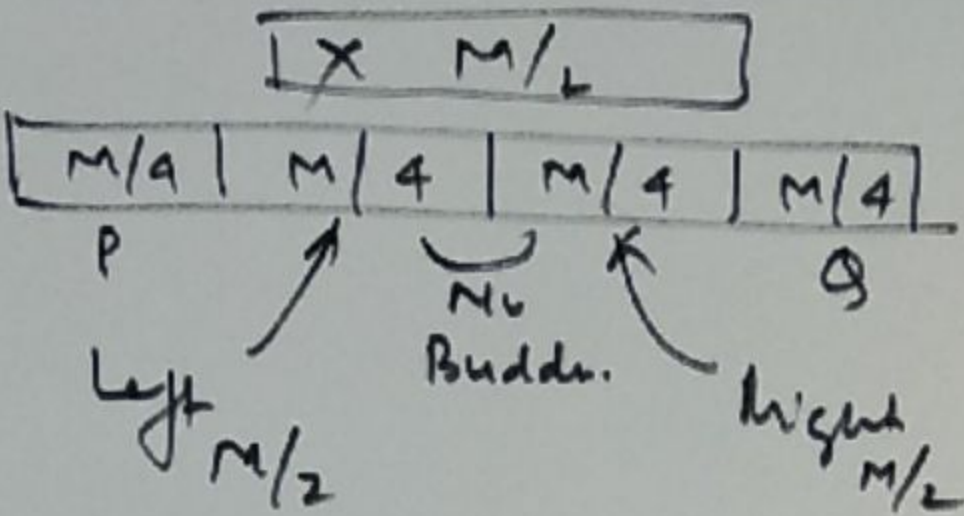
Ex 3

R terminates

2 incoming

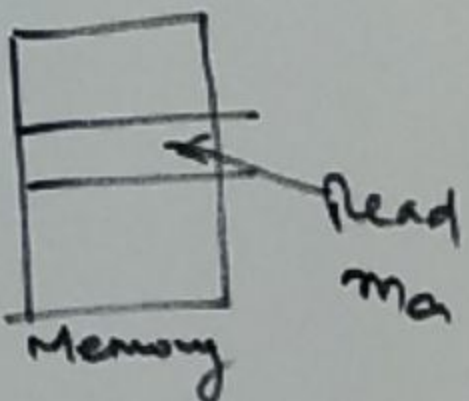


— If two small buddies are free, they form a large buddy



— EAT (Effective Access time)

EAT ≤ m_a (best)



Memory Management Techniques (MMT)

— If EAT is close to m_a, the MMT is good

EAT → No of memory access needed to carry out an activity

partitioning → Reference to PT (Mem)
↓
Actual location

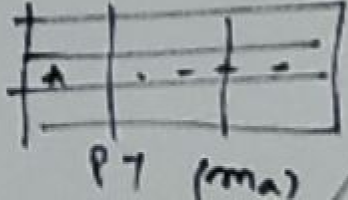
$m_a + m_a$

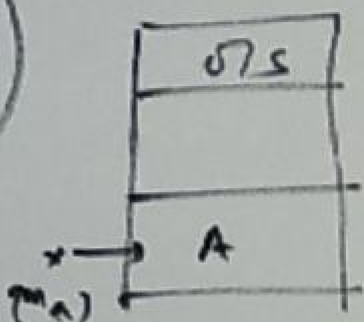
$2m_a$

m_a

m_a

MFT
MVT] $2m_a$





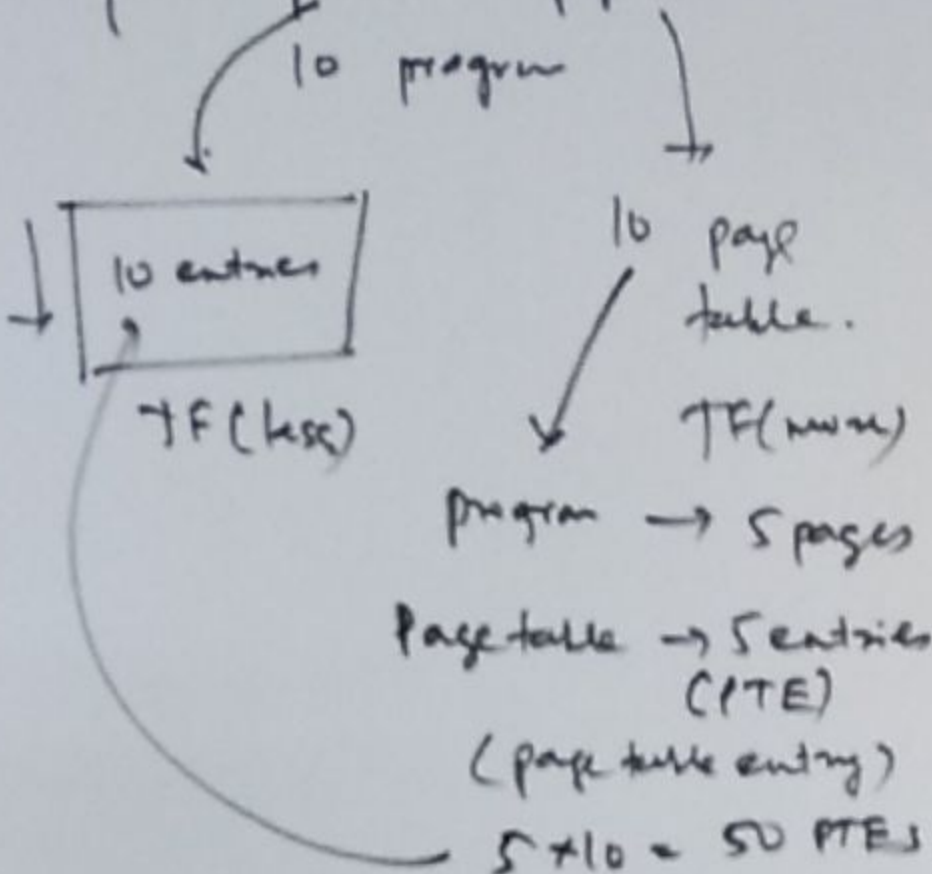
Reduce → close to m_a

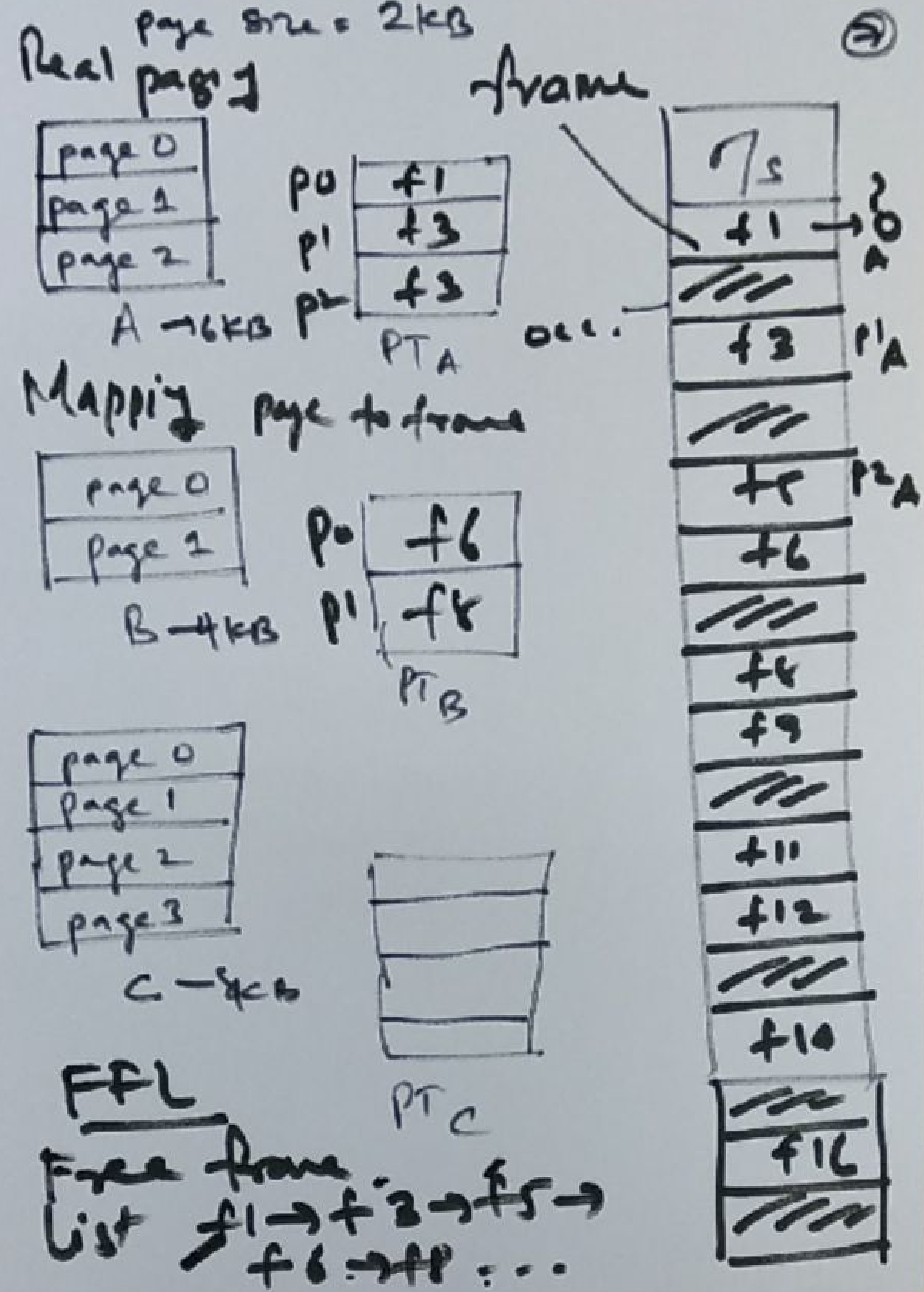
Paging System (Non-Contiguous)

- program is divided into pages

- logical space (page) → physical space (frame or page frame)
  - A — 3 pages (0, 1, 2) → (5, 9, 12)
- size of page and frame is same
- one to one mapping of page to frame
- Page table — every program

- Compare partition & page table




page size = 2KB
7
Real page
frame
page 0
page 1
page 2
A → 6KB
p0 f1
p1 f3
p2 f3
PT_A
occ.
OS
f1 → p0 A
f3 p1 A
f5 p2 A
f6
f8
f9
f11
f12
f10
f16
Mapping page to frame
page 0
page 1
B → 4KB
p0 f6
p1 f8
PT_B
page 0
page 1
page 2
page 3
C → 8KB
PT_C
FFL
Free frame list f1 → f3 → f5 →
f6 → f8 ...