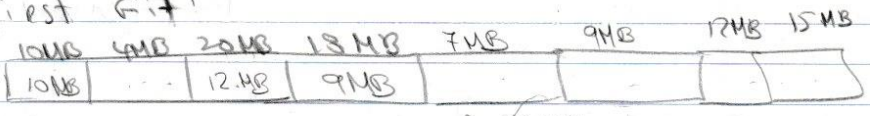
Page 254 # 4
Page 254 # 7
Page 257 # 28
Page 258 # 38
[redacted]

Q. 4 p. 254

① First Fit:

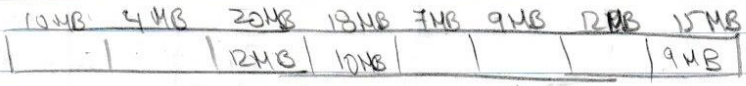


a) 20 MB b) 18 MB c) 18 MB.

② Best Fit

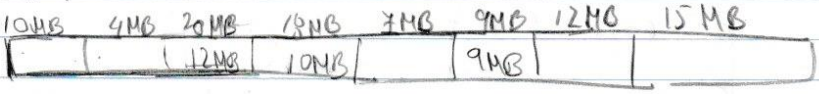
a) 12 MB
b) 10 MB
c) 9 MB.

③ worst fit:



a) 20 MB b) 18 MB c) 15 MB

④ next fit



a) 20MB b) 18MB c) 9MB

p. 254 # 7

a) 8K – 12K (20 → (8×1024) + 20 = 8212
V.M Physical Memory

b) 4K – 8K (4100 → 4100

c) 24K – 28K (8300 → 24576 + 108 = 24684

8300 – 8192 = 108
it is 108 far from 8192

p. 257 # 28

FIFO

Page	F1	F2	F3	F4	
0	Empty	Empty	Empty	Empty	Page Fault
1	0	Em.	Em.	Em.	Page Fault
7	0	1	Em	Em	Page Fault
2	0	1	7	Em	Page Fault.
3	0	1	7	2	Page Fault
2	3	1	7	2	No Page Fault
7	3	1	7	2	No Page Fault
1	3	1	7	2	No Page Fault
0	3	0	7	2	Page Fault
3	3	0	7	2	No Page Fault
-	3	0	7	2	Final State of the Frame

6 page Fault.

Each time a page Fault occurs the older one gets out of the Frame.

LRU

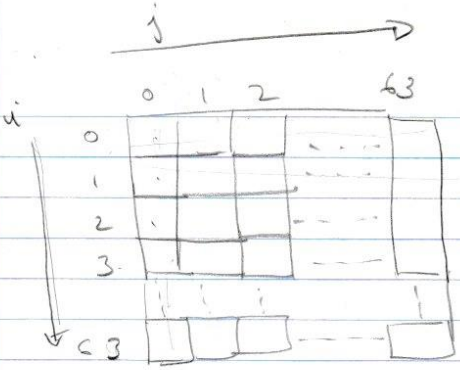
Pages
Reference

	F_1	F_2	F_3	F_4	
0	Em	Em	Em	Em	Page Fault
1	0	Em	Em	Em	Page Fault
7	0	1	Em	Em	Page Fault
2	0	1	7	Em	Page Fault
3	0	1	7	2	Page Fault 0 will be replaced
2	3	1	7	2	No page Fault
7	3	1	7	2	No page Fault
1	3	1	7	2	No page Fault
0	3	1	7	2	Page Fault 3 will be replaced
3	0	1	7	2	Page Fault 2 will be replaced
–	0	1	7	3	Final state of frame:

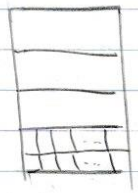
0	1	7	3

7 page Faults.

P.258 #38



Fragment A will Fill the Double Array vertically which means it fills colum by colum.



// 128

Fragment B will Fill the Double Array Horizontally which means it fills Row by Row.

Since the X Array is stored in Row major, fragment B will generate a page fault after Filling two Rows. Whereas Fragment A will generate a page Fault After filling two cells.

For A, Since there is 64 Rows to Fill and each 2 Rows a page Fault occures, the number of page Fault is $\frac{64}{2} = \boxed{32}$.

since Fragment B generate a page fault each 2 cells, we know we have $64 \times 64 = 4096$ cells. So, $\frac{4096}{2} = \boxed{2048}$ is the number of page Faults.