

2) LRU (Least recently used)  
 Replace a page which is not in use for a long time.

1) Consider page reference string 4, 7, 6, 1, 7, 6, 1, 2, 7, 2 with 3 page frames. Find no. of page faults, Hit ratio & miss ratio.

	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pages	4	7	6	1	7	6	1	2	7	2
F1	4	4	4	1	1	1	1	1	1	1
F2		7	7	7	7	7	7	2	2	2
F3			6	6	6	6	6	6	7	7
	X	X	X	X	✓	✓	✓	X	X	✓

Page fault = 6

Page Hit = 4

Hit ratio =  $\frac{4}{10}$

Miss Ratio =  $\frac{6}{10}$

2) Frames = 4

Pages	7	0	1	2	0	3	0	4	2	3	0	3	2	3
F1	7	7	7	7	7	3	3	3	3	3	3	3	3	3
F2		0	0	0	0	0	0	0	0	0	0	0	0	0
F3			1	1	1	1	1	4	4	4	4	4	4	4
F4				2	2	2	2	2	2	2	2	2	2	2
	X	X	X	X	✓	X	✓	X	✓	✓	✓	✓	✓	✓

Page fault = 6

Page Hit = 8

Hit Ratio =  $8/14$ Miss Ratio =  $6/14$ 

3) Frames = 3

Pages	1	3	0	3	5	6	3
F1	1	1	1	1	5	5	5
F2		3	3	3	3	3	3
F3			0	0	0	6	6
	X	X	X	✓	X	X	✓

Page fault = 5, Page Hit = 2



pages	3	2	1	3	4	1	6	2	4	3	4	2	1	4	5	2	1	3	4	5
F1	3	3	3	3	3	3	6	6	6	3	3	3	1	1	1	2	2	2	4	
F2		2	2	2	4	4	4	2	2	2	2	2	2	2	5	5	5	3	3	
F3			1	1	1	1	1	1	4	4	4	4	4	4	4	4	1	1	1	
	X	X	X	✓	X	✓	X	X	X	X	✓	✓	X	✓	X	X	X	X	X	

Page fault = 14  
Page Hit = 5

Hit Ratio =  $5/19$   
Miss Ratio =  $14/19$