

TALHA MUDASSAR

LIF22BSCS0379

Operating - System

Assignment 4

E-12

FIFO (first in first out)

2, 3, 2, 4, 5, 2, 6, 3, 2, 5, 3, 4, 3, 2, 3, 6, 5, 2, 3

	F	F	H	F	F	F	F	F	F	H	H	F	H	F	H	F	F	F	F	F	F
F ₁	2	2	2	2	5	5	5	3	3	3	3	3	3	2	2	2	2	5	5	5	5
F ₂		3	3	3	3	2	2	2	2	5	5	5	5	5	3	3	3	2	2		
F ₃																					

Page Hits = 4

Page fault = 15

$$\text{Hit Ratio} = \frac{4}{19} \times 100 = 21.05\%$$

$$\text{Page Fault Ratio} = \frac{15}{19} \times 100 = 78.95\%$$

LRU (Least Recently Used)

2, 3, 2, 4, 5, 2, 6, 3, 2, 5, 3, 4, 2, 2, 2, 3, 6, 5, 2, 3

	F	F	H	F	F	H	F	F	H	F	H	F	H	F	F	F	F	F	F
F ₁	2	2	2	2	2	2	2	2	2	2	4	4	4	4	6	6	6	3	
F ₂		3	3	3	5	5	5	3	3	3	3	3	3	3	3	3	2	2	
F ₃				4	4	4	6	6	5	5	5	5	2	2	2	5	5	5	

Page Hit = 6

$$\text{Hit Ratio} = \frac{6}{19} \times 100 = 31.58\%$$

Page Fault = 13

$$\text{Page Fault Ratio} = \frac{13}{19} \times 100 = 68.42\%$$

Optimal page Replacement

2, 3, 2, 4, 5, 2, 6, 3, 2, 5, 3, 4, 3, 2, 3, 6, 5, 2, 3

	F	F	H	F	F	H	F	H	H	F	H	F	H	H	F	F	H	H
F ₁	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
F ₂		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F ₃				4	5	5	6	6	6	5	5	4	4	4	4	6	5	5

Page Hit = 10

$$\text{Hit Ratio} = \frac{10}{19} \times 100 = 52.63\%$$

Page fault = 9

$$\text{Page fault Ratio} = \frac{9}{19} \times 100 = 47.37\%$$