FIFO

First In First Out Algorithm for Page Replacement

FIFO

- The Oldest page in the physical memory is the one selected for replacement.
- Easy to implement
- Keep a list
- On a page Fault, the page at the head is removed and the new page is added to the tail of the list.

What we Required to Perform an Algorithm

Pages

Page is just like an operation/job. Which is allocating in Frames so whenever page is required give the page to OS.

Frames

Frame is storing the page.

Logic

Step 1

Create a list for storing the pages. Create Frames for storing pages at a time. And traverse pages's list

Step 2

If the called page is not available in Frames and Frames is not full so add the page is Frames list.

Step 3

If the called page is not available in Frames and Frames is full so Delete the page which is added first as compared to another.

- If the page is not available in Frames called Page Fault
- If the page is available in Frames called Page Hit

Pages = [0,2,1,6,4,0,1,0,3,1,2,1]

No Of Frames = 4

0	2	3	4	5	6	7	8	9	10	11	12
			6	6	6	6	6	6	1	1	1
		1	1	1	1	1	1	3	3	3	3
	2	0	2	2	0	0	0	0	0	0	0
0	0	0	0	4	4	4	4	4	4	2	2
★	★	★	★	★	★			★	★	★	

- The red-colored number is not available in Frames and added as a Page Fault
- The blue-colored number is available in Frames and considered as Page Hit

★ Denotes Page Fault

- First 4 Pages are not available in Frames so considered as a Page Fault. (0 -> 4)
- Then the required page is 4 which is not available in Frames so delete the page which occurred first among them which is 0. (Page Fault)
- Now the required page is 0 and it is not available in Frames so delete the page which occurred first among them which is 2. (Page Fault)
- Now the required page is 1 and is available in Frames so consider it as a Page Hit.
- Now the required page is 0 and is available in Frames so consider it as a Page Hit.
- Now the required page is 3 and it is not available in Frames so delete the page which occurred first among them which is 1. (Page Fault)
- Now the required page is 1 and it is not available in Frames so delete the page 6. (Page Fault)
- Now the required page is 2 and it is not available in Frames so delete the page 4. (Page Fault)
- Now the required page is 1 and is available in Frames so consider it as a Page Hit.

Conclusion

So,

Page hits = 3
Page Faults = 9
Hit Ratio = 3/(3+9) = 0.25
Fault Ratio = 9/(3+9) = 0.75