

Republic of the Philippines Tarlac State University COLLEGE OF COMPUTER STUDIES Tarlac City, Tarlac

Tel. No. (045) 6068173



A case study In partial fulfillment of the requirements for the course Operating Systems

Implementation of the Page Replacement Algorithms (FIFO, LRU and OPT Algorithm)

Operating Systems Case Study

Submitted by:

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BSCS-3B

Submitted to:

Ma'am Jo Anne G. Cura

Submission Date: May 21,2025





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DOCUMENTATION

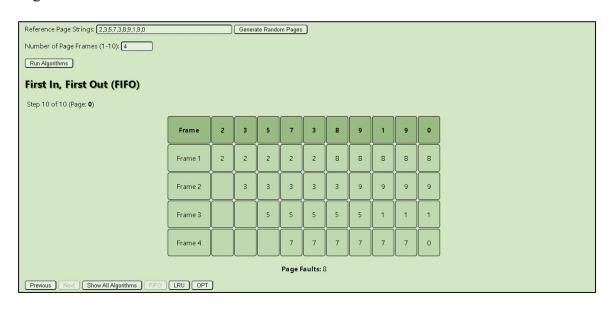
1. First In, First Out Algorithm



Reference String: 7,0,1,2,0,3,0,4,2,3,0,3,2

Number of Page Frames: 3

Page Fault: 10



Reference String: 2,3,5,7,3,8,9,1,9,0

Number of Page Frames: 4

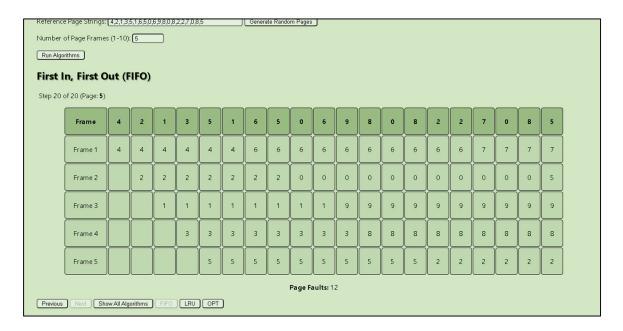
Page Fault: 8



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Reference String: 4,2,1,3,5,1,6,5,0,6,9,8,0,8,2,2,7,0,8,5

Number of Page Frames: 5

Page Fault: 12

2. Least Recently Used Algorithm

Page Replacement Algorithms																-	0)	×
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Page Replacement Algorithms																		
Reference Page Strings: 7.0.1.2.0.3.0.4.2.3.0.3.2 Generate Random Pages																		
Number of Page Frames (1-10): [3																		
Run Algorithms																		
Run Algorithms																		
Least Recently Used (Li	RU)																	
Step 13 of 13 (Page: 2)																		
	Frame	7	0	1	2	0	3	0	4	2	3	0	3	2				
	Frame 1	7	7	7	2	2	2	2	4	4	4	0	0	0				
	Frame 2		0	0	0	0	0	0	o	0	3	3	3	3				
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	Frame 3			1	1	1	3	3	3	2	2	2	2	2				
						Pa	ge Faul	ts: 9										
Previous Next Show All Algorithms FIFO LRU OPT																		

Reference String: 7,0,1,2,0,3,0,4,2,3,0,3,2

Number of Page Frames: 3

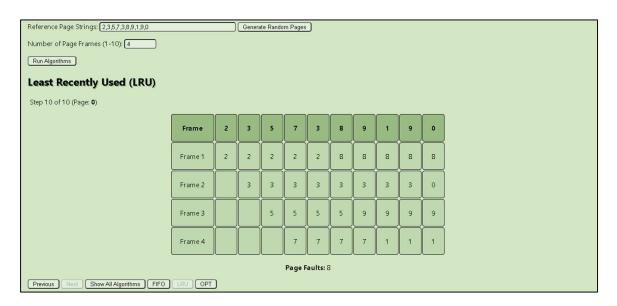
Page Faults: 9



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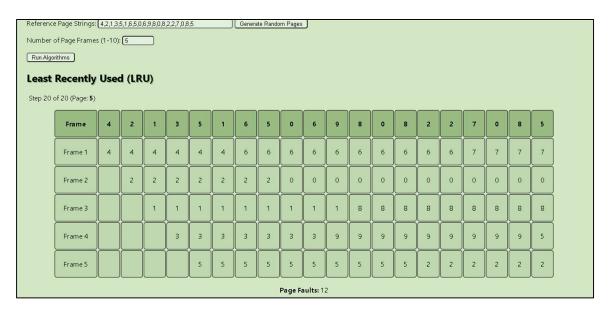
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Reference String: 2,3,5,7,3,8,9,1,9,0

Number of Page Frames: 4

Page Faults: 8



Reference String: 4,2,1,3,5,1,6,5,0,6,9,8,0,8,2,2,7,0,8,5

Number of Page Frames: 5

Page Fault: 12



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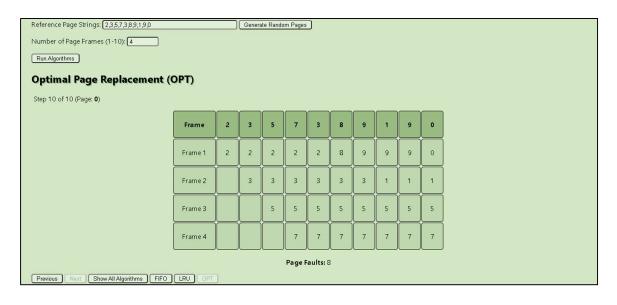
3. Optimal Page Replacement

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File Edit View Help																	
Page Replacement Algorithms																	
rage Replacement Algorithms																	
Reference Page Strings: (7.0.1.2.0.3.0.4.2.3.0.3.2 Generate Random Pages																	
Number of Page Frames (1-10): 3	\neg																
Run Algorithms																	
Outimal Barra Barria and		_															
Optimal Page Replacement (OPT)																	
Step 13 of 13 (Page: 2)	Sten 12 of 13 (Paner 2)																
Sup 13 01 13 (1 age. 2)																	
		_															
Frame 7 0 1 2 0 3 0 4 2 3 0 3 2																	
	Frame 1	7	7	7	2	2	2	2	2	2	2	2	2	2			
													\sqsubseteq				
	Frame 2		0	0	0	0	0	0	4	4	4	0	0	0			
	France 2		0	0	0	0	0	0	4	4	4	0	0	0			
									$\overline{}$								
	Frame 3			1	1	1	3	3	3	3	3	3	3	3			
						Pa	ge Faul	ts: 7									
Previous Next Show All Algorithms) [EIEO] [IE		PT														
Frewoods J Next Show All Algorithms		10															

Reference String: 7,0,1,2,0,3,0,4,2,3,0,3,2

Number of Page Frames: 3

Page Faults: 7



Reference String: 2,3,5,7,3,8,9,1,9,0

Number of Page Frames: 4

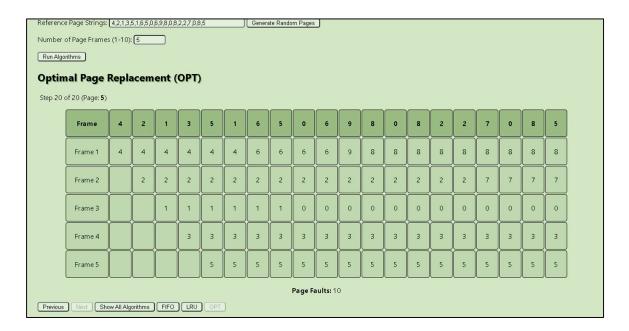
Page Faults: 8



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Reference String: 4,2,1,3,5,1,6,5,0,6,9,8,0,8,2,2,7,0,8,5

Number of Page Frames: 5

Page Fault: 12