



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:

Directo, Donson Mcklein C.

BSCS-3B

Submitted to:

Ma'am Jo Anne G. Cura

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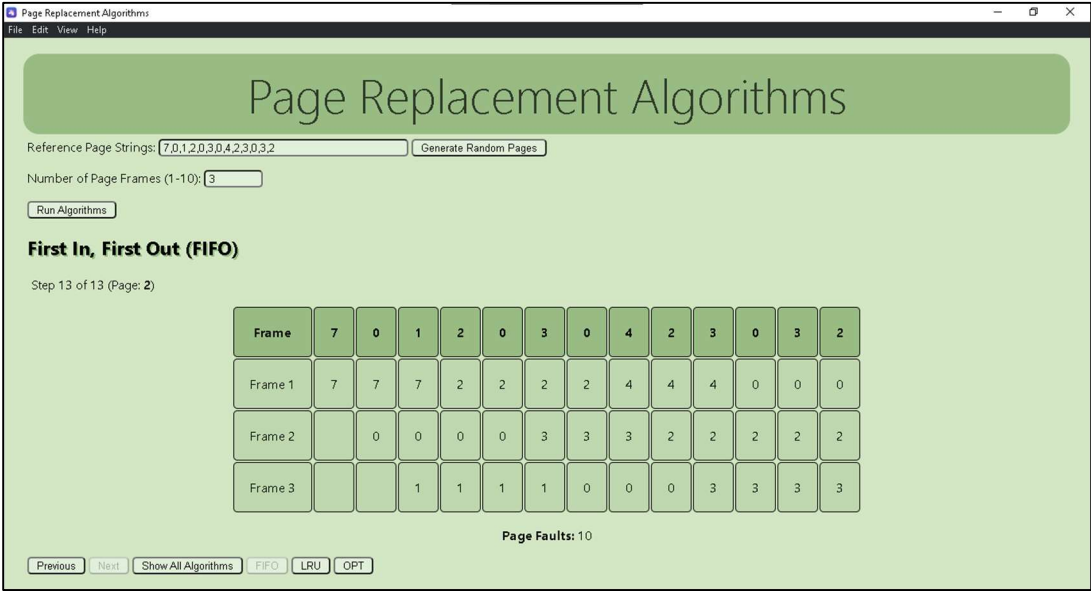
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DOCUMENTATION

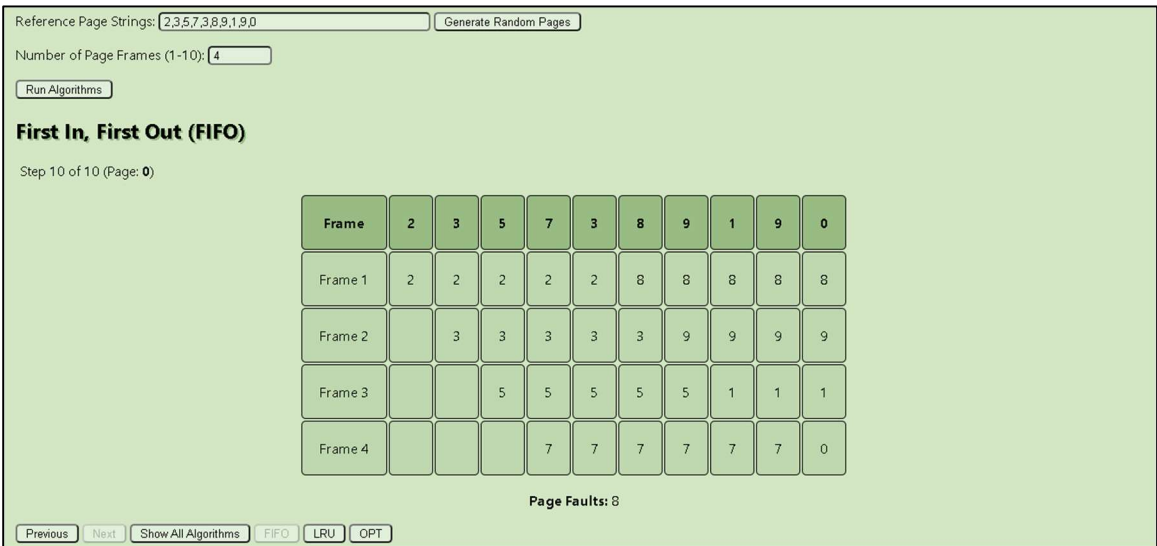
1. First In, First Out Algorithm



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

Number of Page Frames: 3

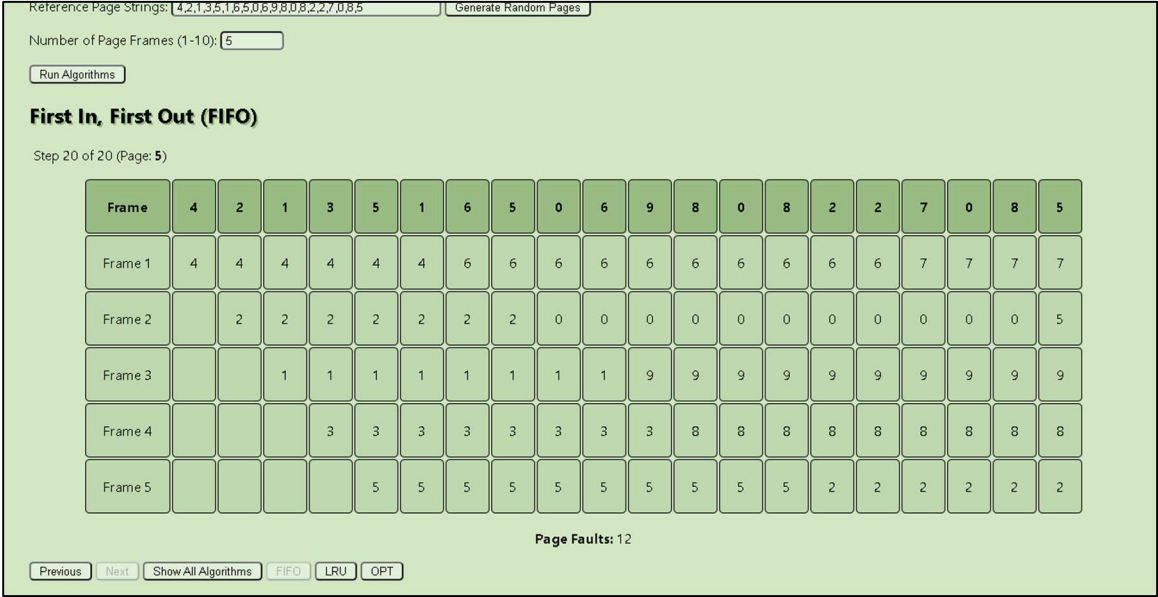
Page Fault: 10



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

Number of Page Frames: 4

Page Fault: 8

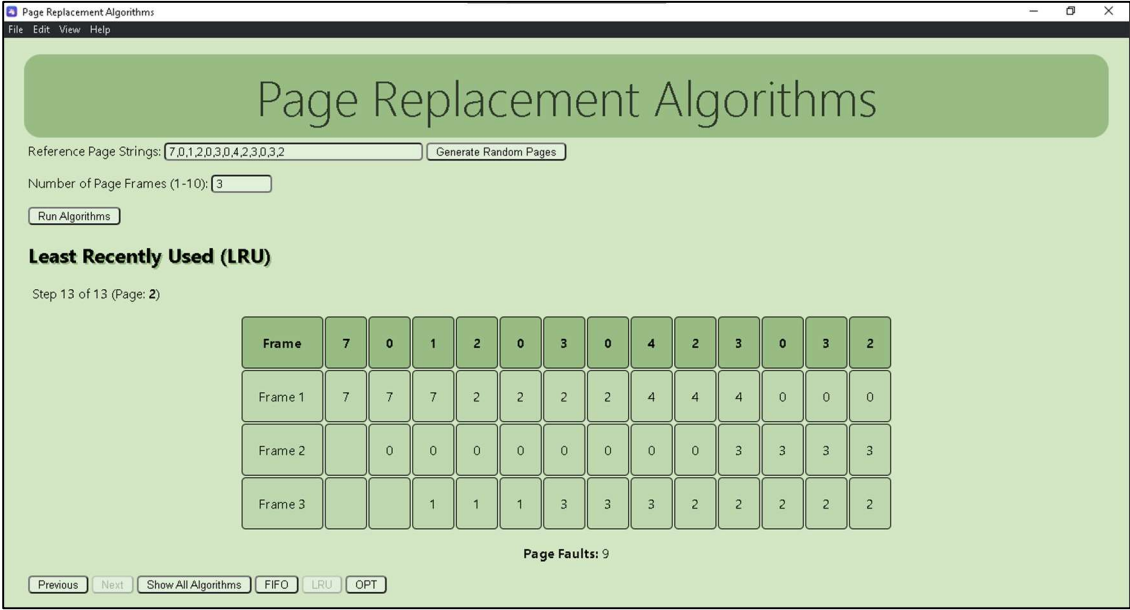


Reference String: 4,2,1,3,5,1,6,5,0,6,9,8,0,8,2,2,7,0,8,5

Number of Page Frames: 5

Page Fault: 12

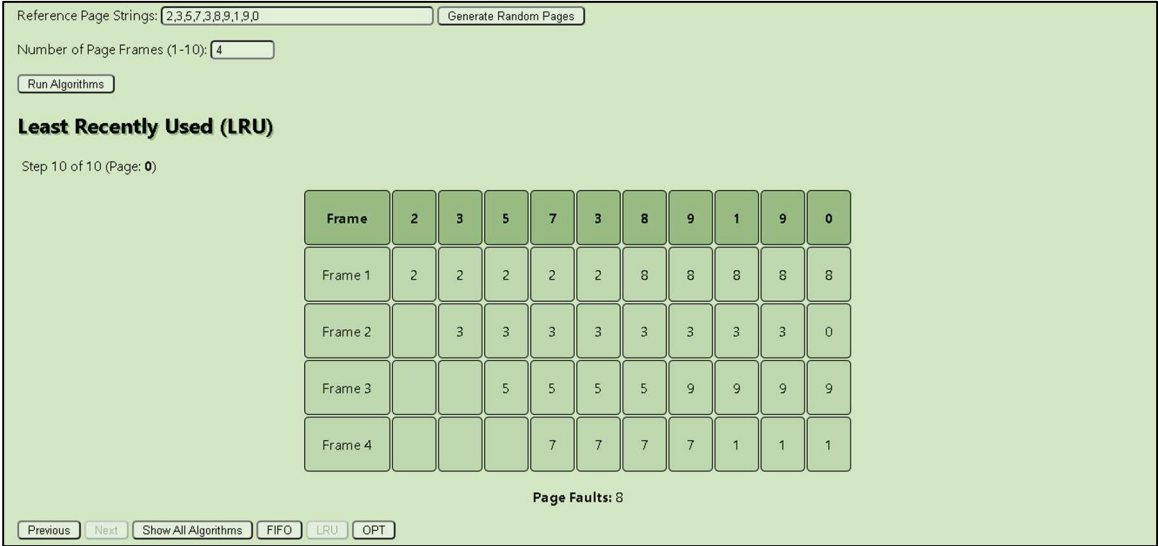
2. Least Recently Used Algorithm



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

Number of Page Frames: 3

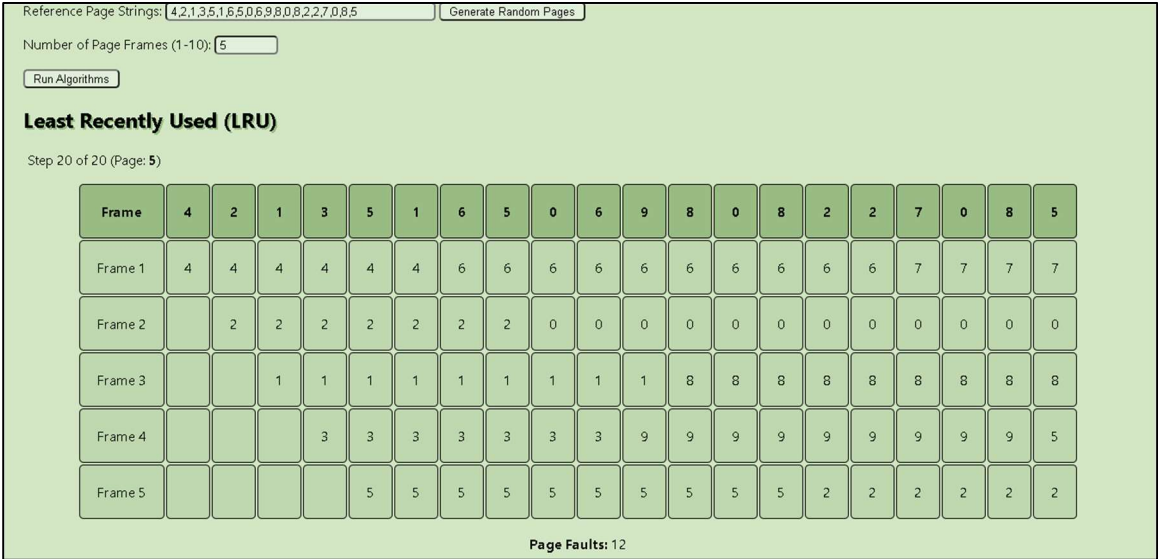
Page Faults: 9



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

Number of Page Frames: 4

Page Faults: 8



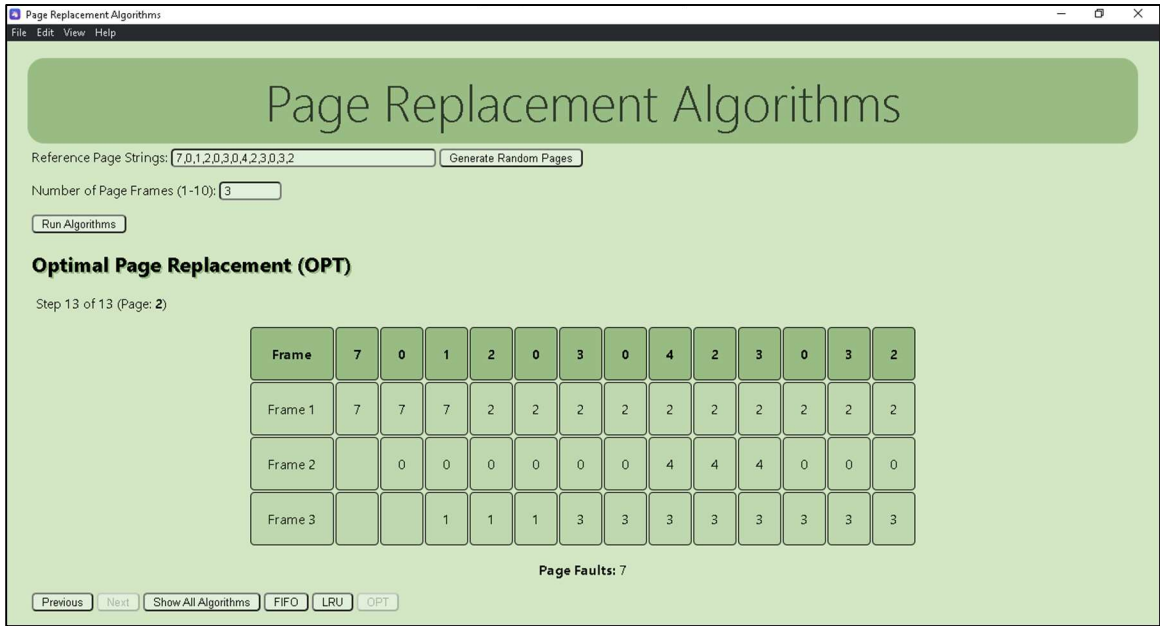
Reference String: 4,2,1,3,5,1,6,5,0,6,9,8,0,8,2,2,7,0,8,5

Number of Page Frames: 5

Page Fault: 12



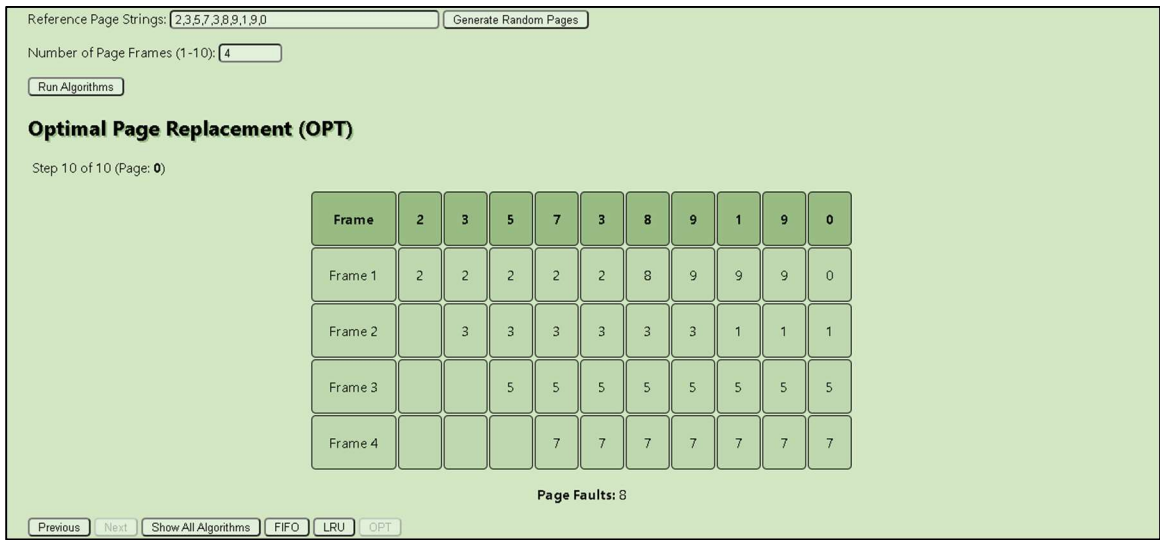
3. Optimal Page Replacement



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



Reference Page Strings:

Number of Page Frames (1-10):

Optimal Page Replacement (OPT)
Step 20 of 20 (Page: 5)

Frame	4	2	1	3	5	1	6	5	0	6	9	8	0	8	2	2	7	0	8	5
Frame 1	4	4	4	4	4	4	6	6	6	6	9	8	8	8	8	8	8	8	8	8
Frame 2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	7	7	7	7
Frame 3			1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Frame 4				3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Frame 5					5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Page Faults: 10

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