

Name: Rotha Dapravith

ID: e20190915

Group: I4 GIC (C)

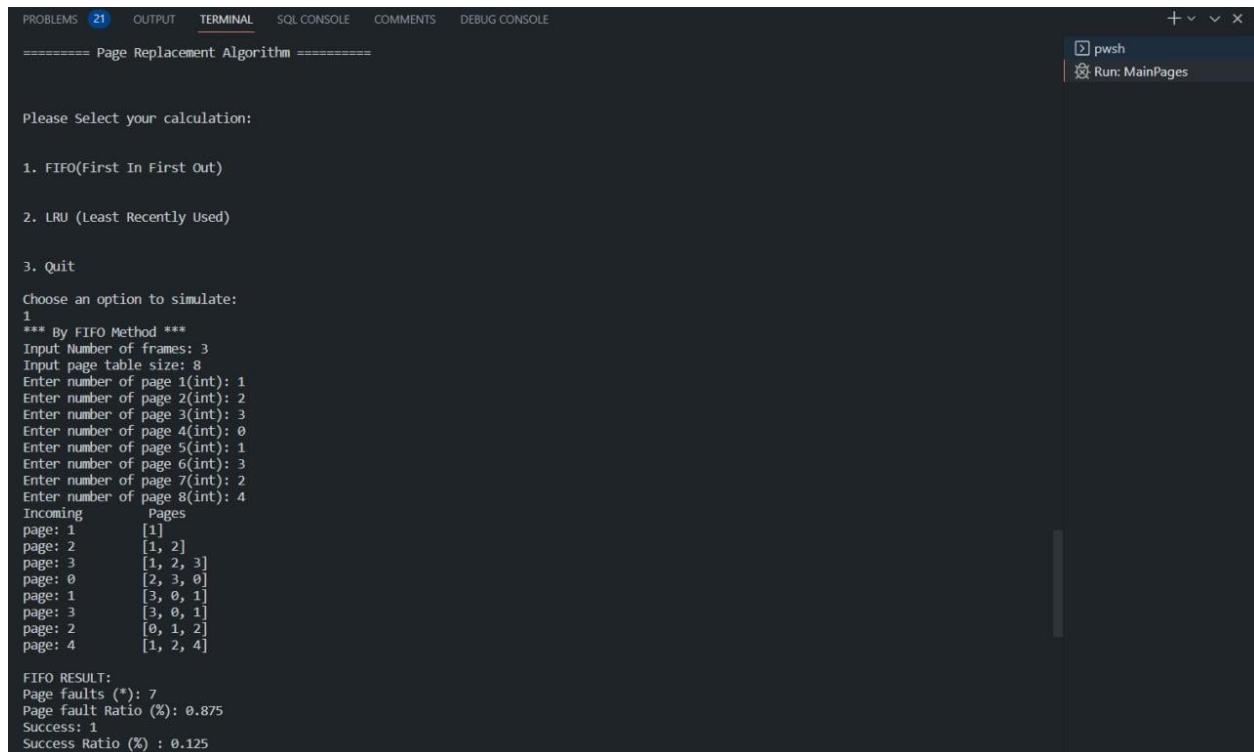
Homework 2 OS

Write a program to simulate page replacement policy: FIFO and LRU in Demand Paging algorithm using any programming language.

Input: sequence of pages, number of page frames

Output: Number of page faults (if possible, display the content of page frame)

1. FIFO Method :



```
PROBLEMS 21 OUTPUT TERMINAL SQL CONSOLE COMMENTS DEBUG CONSOLE
===== Page Replacement Algorithm =====
pwsh
Run: MainPages

Please Select your calculation:
1. FIFO(First In First out)
2. LRU (Least Recently Used)
3. Quit

Choose an option to simulate:
1
*** By FIFO Method ***
Input Number of frames: 3
Input page table size: 8
Enter number of page 1(int): 1
Enter number of page 2(int): 2
Enter number of page 3(int): 3
Enter number of page 4(int): 0
Enter number of page 5(int): 1
Enter number of page 6(int): 3
Enter number of page 7(int): 2
Enter number of page 8(int): 4
Incoming      Pages
page: 1      [1]
page: 2      [1, 2]
page: 3      [1, 2, 3]
page: 0      [2, 3, 0]
page: 1      [3, 0, 1]
page: 3      [3, 0, 1]
page: 2      [0, 1, 2]
page: 4      [1, 2, 4]

FIFO RESULT:
Page faults (*): 7
Page fault Ratio (%): 0.875
Success: 1
Success Ratio (%) : 0.125
```

2. Least Recently Used (LRU) Method

The screenshot shows a terminal window with the following content:

```
PROBLEMS 21 OUTPUT TERMINAL SQL CONSOLE COMMENTS DEBUG CONSOLE + v x

Please Select your calculation:
1. FIFO(First In First Out)
2. LRU (Least Recently Used)
3. Quit

Choose an option to simulate:
2
*** By LRU Method ***

Input the Number of frames: 3
Input page table size: 10
Input each page number
Enter number of page 1(int): 2
Enter number of page 2(int): 3
Enter number of page 3(int): 1
Enter number of page 4(int): 0
Enter number of page 5(int): 2
Enter number of page 6(int): 3
Enter number of page 7(int): 2
Enter number of page 8(int): 1
Enter number of page 9(int): 0
Enter number of page 10(int): 1
Page : 2 [2] [ ] [ ]
Page : 3 [2] [3] [ ]
Page : 1 [2] [3] [1]
Page : 0 [0] [3] [1]
Page : 2 [0] [2] [1]
Page : 3 [0] [2] [3]
Page : 2 [0] [2] [3]
Page : 1 [1] [2] [3]
Page : 0 [1] [2] [0]
Page : 1 [1] [2] [0]
Page faults (*): 5
Page fault Ratio (%): 0.5
Success: 5
Success Ratio (%) : 0.5
```

3. Quit

The screenshot shows a terminal window with the following content:

```
3. Quit

Choose an option to simulate:
3
You exits program. Thank You!
PS C:\Users\dapra\Documents\I4 GIC_Semester I_2023\I4 GIC Operating System\Page Replacement Algorithm>
```