Mawlana Bhashani Science and Technology University

Lab-Report

Report No:11

Lab Report Name: Implementation of FIFO Page Replacement Algorithm.

Course code: ICT-3110

Course title: Operating System Lab

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Experiment no : 11

Experiment name : Implementation of FIFO page replacement algorithm.

Theory:

This is the simplest page replacement algorithm. In a page replacement algorithm we decide when a page replacement occurs then which frames are to be replaced. For evaluating an algorithm we take a particular string of memory references called reference string.

In FIFO page replacement algorithm- for each page we track the time when it was brought into the memory and when any replacement request comes then oldest page is chosen. If we choose a queue to hold all pages in memory then its more easy to understand and implement rather than tracking time of all pages.

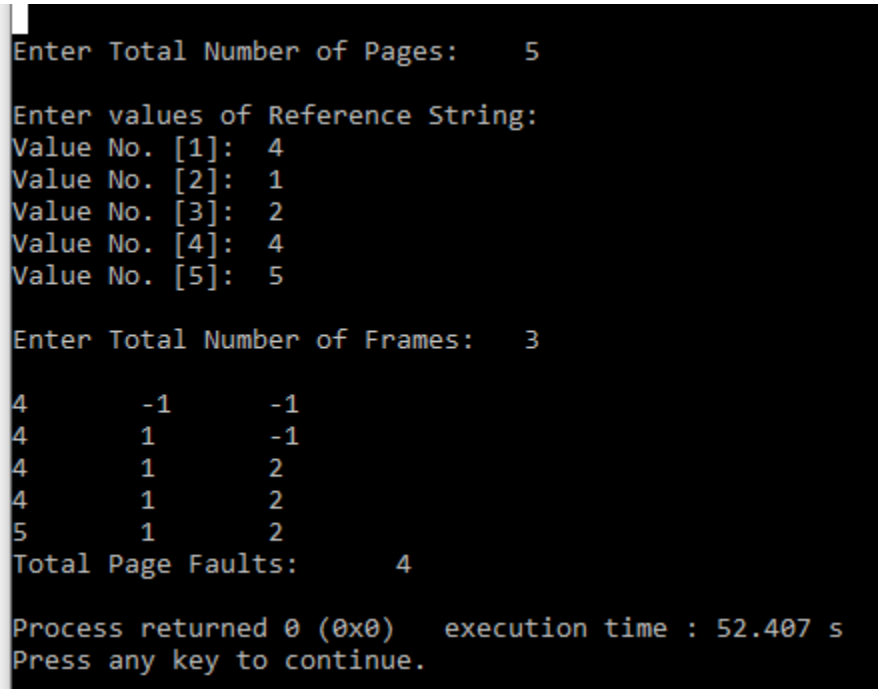
Working Process:

```
#include<stdio.h>

int main()
{
    int reference_string[10], page_faults = 0, m, n, s, pages, frames;
    printf("\nEnter Total Number of Pages:\t");
    scanf("%d", &pages);
    printf("\nEnter values of Reference String:\n");
    for(m = 0; m < pages; m++)
    {
        printf("Value No. [%d]:\t", m + 1);
        scanf("%d", &reference_string[m]);
    }
    printf("\nEnter Total Number of Frames:\t");
    {
        scanf("%d", &frames);
    }
    int temp[frames];
    for(m = 0; m < frames; m++)
    {
```

```
        temp[m] = -1;
    }
    for(m = 0; m < pages; m++)
    {
        s = 0;
        for(n = 0; n < frames; n++)
        {
            if(reference_string[m] == temp[n])
            {
                s++;
                page_faults--;
            }
        }
        page_faults++;
        if((page_faults <= frames) && (s == 0))
        {
            temp[m] = reference_string[m];
        }
        else if(s == 0)
        {
            temp[(page_faults - 1) % frames] = reference_string[m];
        }
        printf("\n");
        for(n = 0; n < frames; n++)
        {
            printf("%d\t", temp[n]);
        }
    }
    printf("\nTotal Page Faults:\t%d\n", page_faults);
    return 0;
}
```

Output:



Discussion : In this lab we have implemented FIFO page replacement algorithm using C language. By solving this problem in future we can solve any problem of this algorithm.