Ex. No.: 11a)
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FIFO PAGE REPLACEMENT

Aim:

To find out the number of page faults that occur using First-in First-out (FIFO) page replacement technique.

Algorithm:

1. Declare the size with respect to page length
2. Check the need of replacement from the page to memory
3. Check the need of replacement from old page to new page in memory 4.
Form a queue to hold all pages
5. Insert the page require memory into the queue
6. Check for bad replacement and page fault
7. Get the number of processes to be inserted
8. Display the values

Program Code:

```
#include <stdio.h>
#define MAX 100
int main() {
    int pages[MAX], queue[MAX];
    int n, capacity;
    int front = 0, rear = 0, pageFaults = 0;
    int i, j, found;
    printf("Enter the number of pages: ");
    scanf("%d", &n);
    printf("Enter the reference string: ");
    for (i=0; i<n; i++) {
        scanf("%d", &pages[i]);
    }
    printf("Enter page frame size: ");
    scanf("%d", &capacity);
```

```
int count = 0
for (i=0 ; i<n ; i++) {
        found = 0;
        for (J=0 ; J < count ; i++) {
                if (queue [J] == pages [i]) {
                        found = 1 ;
                        break ;
                }
        }
        if (!found) {
                pageFault ++ ;
                if (count < capacity) {
                        queue [count++] = pages [i];
                }
                else {
                        queue [front] = pages [i];
                        front = (front +1) % capacity;
                }
        }
        printf ("%d", pages [i]);
        for (J=0 ; i< count ; J++) {
                        printf (" %d", queue [J]);
        }
        printf ("\n");
}
printf ("Total Page Faults : %d \n", pageFaults);
return(0);
}
```

Sample Input :

Enter the number of pages : 12

Enter the reference string : 1 3 0 3 5 6 3 0 6 4 1 7

Enter the frame size : 3

Output :-

1 : 1

3 : 13

0 : 130

3 : 130

5 : 530

6 : 560

3 : 563

0 : 063

6 : 063

4 : 463

1 : 413

7 : 417

Total page Faults : 9

```
1 -> 7 0 1
Total page faults: 15.
[root@localhost student]#
```

Result :

Thus, Number of Page Fault is calculated usin
FIFO Page replacement Algorithm.