Ex. No.: 11A **Roll no:231901004**

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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. Start the process.
2. Declare the page frame size and reference string length.
3. Read the reference string values.
4. Check each page:
    - If the page is not in memory, it's a page fault.
    - If memory is full, remove the oldest page (FIFO) and insert the new one.
5. Count the total number of page faults.
6. Display the frame content after each insertion and total faults.
7. Stop the process.

C Program: #include <stdio.h> int main() { int refStr[50], frames[10], n, f, i, j, k, pageFaults = 0, index = 0, found; printf("Enter the size of reference string: "); scanf("%d", &n); printf("Enter the reference string:\n");

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  for(i = 0; i < n; i++) {
printf("Enter [%d] : ", i+1);
scanf("%d", &refStr[i]);
  }
  printf("Enter number of frames: ");
scanf("%d", &f);
```

```
   for(i = 0; i < f; i++)
frames[i] = -1;
   printf("\nPage Replacement Process:\n");
   for(i = 0; i < n; i++) {
found = 0;        for(j = 0; j < f;
j++) {            if(frames[j] ==
refStr[i]) {               found = 1;
break;
          }
       }
       if(!found) {
frames[index] = refStr[i];
index = (index + 1) % f;
pageFaults++;             for(k = 0; k <
f; k++) {               if(frames[k] != -1)
printf("%d ", frames[k]);
             else
printf("- ");
          }
          printf("\n");
       } else {
          printf("No Page Fault\n");
       }
   }
   printf("\nTotal Page Faults = %d\n", pageFaults);
   return 0;
}
```

Sample Output:

Enter the size of reference string: 6

Enter the reference string:

Enter [1] : 5

Enter [2] : 7

Enter [3] : 5

Enter [4] : 6

Enter [5] : 7

Enter [6] : 3

Enter number of frames: 3

Page Replacement Process:

5 - - 5

7 -

No Page Fault

5 7 6

No Page Fault

3 7 6

Total Page Faults = 4

Result:

Thus, the program for FIFO page replacement was written and executed successfully. The number of page faults was calculated and verified.