

Code 12

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#include <stdio.h>

int main() {
    int pages[30], frame[10];
    int n, f, i, j, k = 0, pageFaults = 0, flag;

    printf("Enter number of pages: ");
    scanf("%d", &n);

    printf("Enter reference string: ");
    for (i = 0; i < n; i++) {
        scanf("%d", &pages[i]);
    }

    printf("Enter number of frames: ");
    scanf("%d", &f);

    // Initialize frame array
    for (i = 0; i < f; i++)
        frame[i] = -1;

    // FIFO Algorithm
    for (i = 0; i < n; i++) {
        flag = 0;

        // Check if page already in frame
        for (j = 0; j < f; j++) {
```

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        if (frame[j] == pages[i]) {
            flag = 1; // Page hit
            break;
        }
    }

    if (flag == 0) { // Page fault
        frame[k] = pages[i];
        k = (k + 1) % f; // FIFO replacement
        pageFaults++;
    }

    // Print current frame status
    printf("Page %d -> ", pages[i]);
    for (j = 0; j < f; j++) {
        if (frame[j] != -1)
            printf("%d ", frame[j]);
        else
            printf("- ");
    }
    printf("\n");
}

printf("\nTotal Page Faults = %d\n", pageFaults);
return 0;
}

```