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#include <stdio.h>

struct frmnode
{
    int pno, freq;
} frames[20];

int n;

int page_found(int pno)
{
    int fno;
    for (fno = 0; fno < n; fno++)
        if (frames[fno].pno == pno)
            return fno;

    return -1;
}

int get_free_frame()
{
    int fno;
    for (fno = 0; fno <= n; fno++)
        if (frames[fno].pno == -1)
            return fno;

    return -1;
}

int get_mfu_frame()
{
    int fno, selfno = 0;
    for (fno = 1; fno < n; fno++)
        if (frames[fno].freq > frames[selfno].freq)
            selfno = fno;

    return selfno;
}

void main()
{
    int p_request[] = {12, 15, 12, 18, 6, 8, 11, 12, 19, 12, 6, 8, 12, 15, 19,
8};

    int size = 16;
    int page_faults = 0, i, j, fno;

    printf("How many frames : ");
    scanf("%d", &n);

    for (i = 0; i < n; i++)

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{
    frames[i].pno = -1;
    frames[i].freq = 0;
}

printf("\nPage No\t\tPage Fault\tPage Frames");
printf("\n-----");

for (i = 0; i < size; i++)
{
    j = page_found(p_request[i]);

    if (j == -1)
    {
        page_falts++;
        j = get_free_frame();
        if (j == -1)
            j = get_mfu_frame();
        frames[j].pno = p_request[i];
        frames[j].freq = 1;

        printf("\n%d\t\tYES\t", p_request[i]);
    }
    else
    {
        frames[j].freq++;
        printf("\n%d\t\tNO\t", p_request[i]);
    }
    for (fno = 0; fno < n; fno++)
        printf("\t%d : %d\t", frames[fno].pno, frames[fno].freq);
}

printf("\n-----");
printf("\nTotal no of page faults : %d\n", page_falts);
}

```