#include <stdio.h>

int main() {

// Hardcoded reference string and number of frames

int p[] = {7, 0, 1, 2, 0, 3, 0, 4}; // Page references

int n = 8; // Number of pages

int f = 3; // Number of frames

int mem[3] = {-1, -1, -1}; // Memory frames initialized to -1 (empty)

int last[3] = {0, 0, 0}; // Last used times for frames

int faults = 0; // Page fault counter

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

int hit = 0;

// Check if the page is already in memory

for (int j = 0; j < f; j++) {

if (mem[j] == p[i]) {

hit = 1; // Page hit

last[j] = i; // Update last used time

break;

}

}

// If page is not in memory, replace the least recently used page

if (!hit) {

int lru = 0;

// Find the least recently used frame

for (int j = 1; j < f; j++) {

if (last[j] < last[lru]) {

lru = j;

}

}

// Replace the page in the LRU frame

mem[lru] = p[i];

last[lru] = i; // Update last used time

faults++;

}

}

printf("Total Page Faults: %d\n", faults);

return 0;

}

Total Page Faults: 6