#include <stdio.h>

#define Frame\_Size3

int memory[Frame\_Size];

int counter[Frame\_Size];

int page\_faults = 0;

void replace\_page(int page) {

int i, j, min\_counter;

min\_counter = counter[0];

j = 0;

for (i = 1; i < Frame\_Size; i++) {

if (counter[i] < min\_counter) {

min\_counter = counter[i];

j = i;

}

}

memory[j] = page;

counter[j] = 1;

}

int main() {

int i, j, page, num\_pages;

int page\_queue[] = {9, 4, 5, 6, 4, 7, 4, 8};

num\_pages = sizeof(page\_queue) / sizeof(page\_queue[0]);

for (i = 0; i < num\_pages; i++) {

page = page\_queue[i];

if (i >= Frame\_Size) {

for (j = 0; j < Frame\_Size; j++) {

if (memory[j] == page) {

counter[j]++;

break;

}

}

if (j == Frame\_size) {

page\_faults++;

replace\_page(page);

}

} else {

memory[i] = page;

counter[i] = 1;

page\_faults++;

}

}

printf("Total Amount of Page faults: %d\n", page\_faults);

printf("Memory: ");

for (i = 0; i < Frame\_Size; i++) {

printf("%d ", memory[i]);

}

printf("\n");

return 0;

}