

```

1  #include <pthread.h>
2  #include <stdio.h>
3  #include <stdlib.h>
4  #define MAX_FRAMES 3
5  void printFrames(int frames[], int n) {
6      for (int i = 0; i < n; i++) {
7          if (frames[i] == -1) {
8              printf(" - ");
9          } else {
10             printf(" %d ", frames[i]);
11         }
12     }
13     printf("\n");
14 }
15 void* threadFunc(void* arg) {
16     printf("Inside the thread\n");
17     pthread_exit(NULL);
18 }
19 void fifoPageReplacement() {
20     int referenceString[] = {7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2};
21     int n = sizeof(referenceString) / sizeof(referenceString[0]);
22     int frames[MAX_FRAMES];
23     int framePointer = 0;
24     for (int i = 0; i < MAX_FRAMES; i++) {
25         frames[i] = -1;
26     }
27     printf("\nReference String: ");
28     for (int i = 0; i < n; i++) {
29         printf("%d ", referenceString[i]);
30     }
31     printf("\n\n");
32     printf("Page Replacement Order:\n");

```

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33 for (int i = 0; i < n; i++) {
34     int page = referenceString[i];
35     int pageFound = 0;
36     for (int j = 0; j < MAX_FRAMES; j++) {
37         if (frames[j] == page) {
38             pageFound = 1;
39             break;
40         }
41     }
42     if (!pageFound) {
43         printf("Page %d -> ", page);
44         frames[framePointer] = page;
45         framePointer = (framePointer + 1) % MAX_FRAMES;
46         printFrames(frames, MAX_FRAMES);
47     }
48 }
49 }
50 int main() {
51     pthread_t ptid;
52     int ret;
53     ret = pthread_create(&ptid, NULL, threadFunc, NULL);
54     if (ret != 0) {
55         fprintf(stderr, "Error creating thread\n");
56         exit(1);
57     }
58     printf("This line may be printed before thread terminates\n");
59     pthread_join(ptid, NULL);
60     printf("This line will be printed after thread ends\n");
61     fifoPageReplacement();
62     return 0;
63 }

```

This line may be printed before thread terminates
Inside the thread
This line will be printed after thread ends

Reference String: 7 0 1 2 0 3 0 4 2 3 0 3 2

Page Replacement Order:

Page 7 -> 7 - -

Page 0 -> 7 0 -

Page 1 -> 7 0 1

Page 2 -> 2 0 1

Page 3 -> 2 3 1

Page 0 -> 2 3 0

Page 4 -> 4 3 0

Page 2 -> 4 2 0

Page 3 -> 4 2 3

Page 0 -> 0 2 3

Process exited after 0.1554 seconds with return value 0

Press any key to continue . . . |