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main.c

```
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 void scanDiskScheduling(int requests[], int n, int head, int
   direction, int disk_size) {
5     int seek_count = 0;
6     int distance, cur_track;
7     int i, j;
8
9     // Create two arrays to store requests on each side of the head
10    int left[n], right[n];
11    int left_count = 0, right_count = 0;
12
13    // Split requests into left and right of the head
14    for (i = 0; i < n; i++) {
15        if (requests[i] < head)
16            left[left_count++] = requests[i];
17        else
18            right[right_count++] = requests[i];
19    }
20
21    // Sort left and right arrays
```

Output

```
Seek Sequence: 65 67 98 122 124 183 37 14
Total Seek Time: 331

== Code Execution Successful ==
```

Type here to search

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main.c

```
1 #include <stdio.h>
2 #include <string.h>
3
4 #define MAX 100
5
6 struct Directory {
7     char filenames[MAX][30];
8     int file_count;
9 };
10
11 void createFile(struct Directory *dir, char name[]) {
12     for (int i = 0; i < dir->file_count; i++) {
13         if (strcmp(dir->filenames[i], name) == 0) {
14             printf("File '%s' already exists.\n", name);
15             return;
16         }
17     }
18     strcpy(dir->filenames[dir->file_count], name);
19     dir->file_count++;
20     printf("File '%s' created successfully.\n", name);
21 }
22
```

Run Output Clear

--- Single Level Directory Menu ---
1. Create File
2. Delete File
3. Search File
4. Display Files
5. Exit
Enter your choice: 1
Enter file name to create: pdf
File 'pdf' created successfully.

--- Single Level Directory Menu ---
1. Create File
2. Delete File
3. Search File
4. Display Files
5. Exit
Enter your choice: 2
Enter file name to delete: pdf
File 'pdf' deleted successfully.

--- Single Level Directory Menu ---

Type here to search

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Screenshot of a web-based C compiler interface showing the execution of a program named Main.c.

The code in Main.c is:

```
1 #include <stdio.h>
2 #include <dirent.h>
3
4 int main() {
5     DIR *dir;
6     struct dirent *entry;
7
8     dir = opendir(".");
9     if (dir == NULL) {
10         perror("opendir");
11         return 1;
12     }
13
14     printf("Directory listing:\n");
15     while ((entry = readdir(dir)) != NULL) {
16         printf("%s\n", entry->d_name);
17     }
18
19     closedir(dir);
20     return 0;
21 }
22
23
24
```

The output window shows the directory listing:

```
STDIN
Input for the program (Optional)

Output:
Directory listing:
.
..
Main.c
Main
```

The system tray at the bottom of the screen shows the following icons and information:

- Windows Start button
- Type here to search input field
- File Explorer icon
- Recycle Bin icon
- Task View icon
- File Explorer icon
- OneDrive icon
- Word icon
- Excel icon
- Google Chrome icon
- Speaker icon (volume control)
- Manchester United b... (notification)
- Network connection icon
- Battery icon
- Signal strength icon
- ENG IN (language and input method)
- 9:36 PM (date and time)
- 5/15/2025 (date)
- Notification icon with a count of 7

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main.c

```
1 #include <stdio.h>
2
3 #define MAX 50
4
5 int main() {
6     int blockSize[MAX], processSize[MAX], blockAllocated[MAX];
7     int m, n;
8
9     printf("Enter number of memory blocks: ");
10    scanf("%d", &m);
11    printf("Enter size of each block:\n");
12    for (int i = 0; i < m; i++) {
13        printf("Block %d: ", i + 1);
14        scanf("%d", &blockSize[i]);
15        blockAllocated[i] = 0; // initialize allocation tracker
16    }
17
18    printf("\nEnter number of processes: ");
19    scanf("%d", &n);
20    printf("Enter size of each process:\n");
21    for (int i = 0; i < n; i++) {
22        printf("Process %d: ", i + 1);
```

Output

```
Enter number of memory blocks: 2
Enter size of each block:
Block 1: 13
Block 2: 25

Enter number of processes: 2
Enter size of each process:
Process 1: 8
Process 2: 9

Process No. Process Size Block No.
1          8            1
2          9            2

==== Code Execution Successful ===
```

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main.c

```
12     printf("Enter the disk request sequence:\n");
13     for (i = 0; i < n; i++) {
14         printf("Request %d: ", i + 1);
15         scanf("%d", &request[i]);
16     }
17
18     printf("Enter the initial head position: ");
19     scanf("%d", &head);
20
21     printf("\nSeek Sequence:\n");
22     for (i = 0; i < n; i++) {
23         printf("Move from %d to %d\n", head, request[i]);
24         totalSeek += abs(request[i] - head);
25         head = request[i];
26     }
27
28     printf("\nTotal Seek Time: %d\n", totalSeek);
29     printf("Average Seek Time: %.2f\n", (float)totalSeek / n);
30
31     return 0;
32 }
33 }
```

Run

Output

Clear

```
Enter the number of disk requests: 5
Enter the disk request sequence:
Request 1: 2
Request 2: 5
Request 3: 7
Request 4: 9
Request 5: 10
Enter the initial head position: 5

Seek Sequence:
Move from 5 to 2
Move from 2 to 5
Move from 5 to 7
Move from 7 to 9
Move from 9 to 10

Total Seek Time: 11
Average Seek Time: 2.20

== Code Execution Successful ==
```

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main.c

Run

Clear

1 #include <stdio.h>

2

3 void FIFO(int pages[], int n, int frames) {

4 int frame[frames];

5 int front = 0; // Index for replacement

6 int faults = 0;

7

8 // Initialize all frames to -1 (empty)

9 for (int i = 0; i < frames; i++)

10 frame[i] = -1;

11

12 printf("Page\tFrames\tPage Fault\n");

13

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

15 int found = 0;

16

17 // Check if the page is already in a frame (Page Hit)

18 for (int j = 0; j < frames; j++) {

19 if (frame[j] == pages[i]) {

20 found = 1;

21 break;

22 }

23 }

24 if (found == 0)

25 faults++;

26 else

27 frame[front] = pages[i];

28 front = (front + 1) % frames;

29 }

30 }

Output

Page	Frames	Page Fault
1	1 - -	Yes
3	1 3 -	Yes
0	1 3 0	Yes
3	1 3 0	No
5	5 3 0	Yes
6	5 6 0	Yes

Total Page Faults: 5

==== Code Execution Successful ===

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main.c

Run

Clear

Output

```
1 #include <stdio.h>
2
3 int findLRU(int time[], int n) {
4     int min = time[0], pos = 0;
5     for (int i = 1; i < n; i++) {
6         if (time[i] < min) {
7             min = time[i];
8             pos = i;
9         }
10    }
11    return pos;
12 }
13
14 void LRU(int pages[], int n, int frames) {
15     int frame[frames], time[frames];
16     int faults = 0, counter = 0;
17
18     // Initialize frames and time
19     for (int i = 0; i < frames; i++) {
20         frame[i] = -1;
21         time[i] = 0;
22     }
```

Page	Frames	Page Fault
7	7 - - -	Yes
0	7 0 - -	Yes
1	7 0 1 -	Yes
2	7 0 1 2	Yes
0	7 0 1 2	No
3	3 0 1 2	Yes
0	3 0 1 2	No
4	3 0 4 2	Yes
2	3 0 4 2	No
3	3 0 4 2	No
0	3 0 4 2	No
3	3 0 4 2	No
2	3 0 4 2	No

Total Page Faults: 6

==== Code Execution Successful ===

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10:01 PM

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5/15/2025

7

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main.c

Run Clear

```
1 #include <stdio.h>
2
3 int isHit(int frame[], int n, int page) {
4     for (int i = 0; i < n; i++) {
5         if (frame[i] == page)
6             return 1;
7     }
8     return 0;
9 }
10
11 int predict(int pages[], int frame[], int n, int index, int
12             totalPages) {
13     int farthest = index;
14     int result = -1;
15
16     for (int i = 0; i < n; i++) {
17         int j;
18         for (j = index; j < totalPages; j++) {
19             if (frame[i] == pages[j]) {
20                 if (j > farthest) {
21                     farthest = j;
22                     result = i;
23                 }
24             }
25         }
26     }
27
28     return result;
29 }
30
31 void printFrame(int frame[], int n) {
32     for (int i = 0; i < n; i++) {
33         printf("%d ", frame[i]);
34     }
35     printf("\n");
36 }
37
38 int main() {
39     int frames;
40     printf("Enter number of frames: ");
41     scanf("%d", &frames);
42
43     int pages[10];
44     int frame[10];
45
46     for (int i = 0; i < frames; i++) {
47         pages[i] = i;
48     }
49
50     for (int i = 0; i < frames; i++) {
51         frame[i] = -1;
52     }
53
54     int index = 0;
55     int totalPages = 10;
56
57     for (int i = 0; i < totalPages; i++) {
58         int page;
59         printf("Enter page %d: ", i + 1);
60         scanf("%d", &page);
61
62         int result = predict(pages, frame, frames, index, totalPages);
63
64         if (result == -1) {
65             printf("Page %d -> MISS (Frames: ", page);
66             for (int j = 0; j < frames; j++) {
67                 printf("%d ", frame[j]);
68             }
69             printf(")\n");
70         } else {
71             printf("Page %d -> HIT\n");
72         }
73
74         index = result;
75     }
76
77     printFrame(frame, frames);
78 }
```

Output

Enter number of frames: 4

Page 7 -> MISS (Frames: 7)

Page 0 -> MISS (Frames: 7 0)

Page 1 -> MISS (Frames: 7 0 1)

Page 2 -> MISS (Frames: 7 0 1 2)

Page 0 -> HIT

Page 3 -> MISS (Frames: 3 0 1 2)

Page 0 -> HIT

Page 4 -> MISS (Frames: 3 0 4 2)

Page 2 -> HIT

Page 3 -> HIT

Page 0 -> HIT

Page 3 -> HIT

Page 2 -> HIT

Total Page Faults: 6

==== Code Execution Successful ===

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main.c

```
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 #define MAX_BLOCKS 100
5
6 typedef struct {
7     int start;
8     int length;
9     int allocated;
10 } File;
11
12 int main() {
13     int memory[MAX_BLOCKS] = {0}; // 0 = free, 1 = allocated
14     File files[MAX_BLOCKS];
15     int n, i;
16
17     printf("Enter the number of files: ");
18     scanf("%d", &n);
19
20     for (i = 0; i < n; i++) {
21         printf("\nFile %d:\n", i + 1);
22         printf("Enter starting block: ");
```

Run

Output

Clear

```
Enter the number of files: 3

File 1:
Enter starting block: 3
Enter length (number of blocks): 12
File allocated successfully.

File 2:
Enter starting block: 4
Enter length (number of blocks): 13
ERROR!
Error: Blocks already in use. Allocation failed.

File 3:
Enter starting block: 5
Enter length (number of blocks): 14
ERROR!
Error: Blocks already in use. Allocation failed.

File Allocation Table:
File Start Length Status
1 3 12 Allocated
```

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Earnings upcoming

8:17 AM 5/16/2025

A screenshot of a Windows desktop environment. At the top, a browser window is open with several tabs: WhatsApp, UNIX System Calls Examples, Online C Compiler - Programiz, and 43hu4cvxs - C - OneCompiler. The URL bar shows onecompiler.com/c/43hu4cvxs. The main content area of the browser displays a C program named Main.c:

```
1 #include <stdio.h>
2 #include <sys/stat.h>
3
4 int main() {
5     struct stat st;
6
7     if (stat("example.txt", &st) == 0) {
8         printf("Permissions: %o\n", st.st_mode & 0777);
9     } else {
10        perror("stat");
11    }
12
13    return 0;
14 }
```

The code uses the `stat` function to check for the existence of "example.txt". If it exists, it prints its permissions. If it doesn't exist, it prints an error message. The output pane shows the result of running the program:

STDIN
Input for the program (Optional)
Output:
stat: No such file or directory

At the bottom of the screen, the Windows taskbar is visible, featuring the Start button, a search bar with the text "Type here to search", and icons for various system and application shortcuts. On the right side of the taskbar, there are icons for signal strength, battery level, language (ENG IN), and the date and time (9:37 PM 5/15/2025).

A screenshot of a Windows desktop environment. At the top, there is a taskbar with several open windows: WhatsApp, Online C Compiler - Programiz, 43hu5a38a - C - OneCompiler, and C Paging Algorithms. The OneCompiler window is active, displaying a C program named Main.c. The code uses pthreads to print "Hello from thread!" and "Main thread finished". The output pane shows the expected results: "Hello from thread!" followed by "Main thread finished". Below the taskbar, the Windows Start button is visible, along with a search bar and pinned icons for File Explorer, Edge, and other applications. The system tray shows the date and time as 5/15/2025, 9:49 PM, with a weather icon indicating 32°C and partly cloudy conditions.

```
1 #include <stdio.h>
2 #include <pthread.h>
3
4 void* print_hello(void* arg) {
5     printf("Hello from thread!\n");
6     return NULL;
7 }
8
9 int main() {
10     pthread_t thread;
11     pthread_create(&thread, NULL, print_hello, NULL);
12     pthread_join(thread, NULL);
13     printf("Main thread finished\n");
14     return 0;
15 }
16
17
```

Output:

```
Hello from thread!
Main thread finished
```

WhatsApp UNIX System Calls Examples Online C Compiler - Programiz 43hu4cvxs - C - OneCompiler

onecompiler.com/c/43hu4cvxs

Main.c + 43hu4cvxs

#include <stdio.h>
#include <string.h>
int main() {
 FILE *file = fopen("example.txt", "r");
 if (!file) {
 perror("fopen");
 return 1;
 }
 char keyword[] = "UNIX";
 char line[256];
 int line_num = 1;
 while (fgets(line, sizeof(line), file)) {
 if (strstr(line, keyword)) {
 printf("Line %d: %s", line_num, line);
 }
 line_num++;
 }
 fclose(file);
 return 0;
}

STDIN **ctrl+enter**

Input for the program (Optional)

Output:
fopen: No such file or directory

Type here to search Manchester United b... ENG IN 9:36 PM
5/15/2025

UNIX System Calls Examples | (2) WhatsApp | Online C Compiler - Programiz | 43hu45aqe - C - OneCompiler

Main.c + 43hu45aqe

#include <stdio.h>
#include <fcntl.h>
#include <unistd.h>
#include <string.h>
#include <errno.h>

int main() {
 int fd;
 char buffer[100];
 const char *text = "Hello, UNIX System Calls!";
 ssize_t bytes_written, bytes_read;

 // Open or create the file with read-write permissions
 fd = open("example.txt", O_CREAT | O_RDWR, 0644);
 if (fd < 0) {
 perror("File open error");
 return 1;
 }

 // Write data to file
 bytes_written = write(fd, text, strlen(text));
 if (bytes_written < 0) {
 perror("Write error");
 close(fd);
 return 1;
 }

 // Reset the file pointer to the beginning
 if (lseek(fd, 0, SEEK_SET) < 0) {
 perror("lseek error");
 close(fd);
 return 1;
 }

 // Read data from file

STDIN
Input for the program (Optional)

Output:
File open error: Permission denied

Type here to search Vodafone Idea moves... ENG IN 9:32 PM 5/15/2025

Screenshot of a web-based C compiler interface (OneCompiler) showing the execution of a C program.

The code in the editor is:

```
5 #include <dirent.h>
6
7 int main() {
8     int fd = open("example.txt", O_RDONLY);
9     if (fd < 0) {
10         perror("open");
11         return 1;
12     }
13
14     struct stat st;
15     if (fstat(fd, &st) == 0) {
16         printf("File size: %ld bytes\n", st.st_size);
17     }
18
19     int flags = fcntl(fd, F_GETFL);
20     printf("File flags: %d\n", flags);
21
22     lseek(fd, 5, SEEK_SET);
23
24     DIR *dir = opendir(".");
25     if (dir) {
26         struct dirent *entry;
27         printf("Files in current directory:\n");
28         while ((entry = readdir(dir)) != NULL) {
29             printf("%s\n", entry->d_name);
30         }
31         closedir(dir);
32     } else {
33         perror("opendir");
34     }
35
36     close(fd);
37     return 0;
38 }
```

The output window shows:

STDIN

Input for the program (Optional)

Output:

open: No such file or directory

At the bottom, the Windows taskbar shows the search bar, pinned icons (File Explorer, Edge, File History, Task View, Taskbar Help), and system status indicators (Manchester United b..., ENG IN, 9:36 PM, 5/15/2025).