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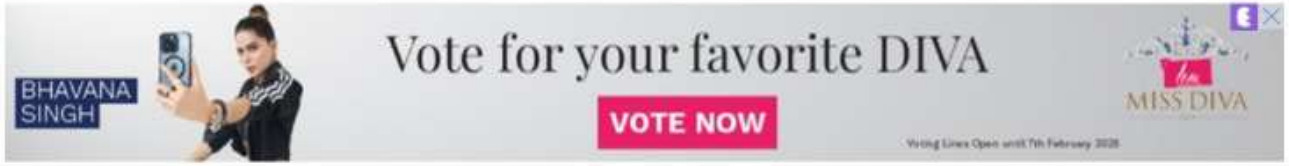


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main.c | Share | Run | Output

```c
#include <stdio.h>

#define MAX_FRAMES 10
#define MAX_PAGES 50

void fifoPageReplacement(int pages[], int n, int frames) {
    int pageFrame[MAX_FRAMES];
    int front = 0, rear = 0, count = 0, pageFaults = 0;

    for (int i = 0; i < frames; i++) {
        pageFrame[i] = -1; // Initialize frames to -1 (empty)
    }

    for (int i = 0; i < n; i++) {
        int page = pages[i];
        int found = 0;

        // Check if the page is already in frame
        for (int j = 0; j < frames; j++) {
            if (pageFrame[j] == page) {
```

```
Enter the number of pages: 5
Enter the page reference sequence: 1


ui
Enter the number of frames: Step 1:
Step 2:
Step 3:
Step 4:
Step 5:
Total Page Faults: 5


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

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main.c | Share | Run | Output

```c
int main() {
    int pages[MAX_PAGES], n, frames;

    printf("Enter the number of pages: ");
    scanf("%d", &n);

    printf("Enter the page reference sequence: ");
    for (int i = 0; i < n; i++) {
        scanf("%d", &pages[i]);
    }

    printf("Enter the number of frames: ");
    scanf("%d", &frames);

    lruPageReplacement(pages, n, frames);

    return 0;
}
```

```
Enter the number of pages: 2
Enter the page reference sequence: 1
1
Enter the number of frames: 2
Step 1:  1  -
Step 2:  1  -
Total Page Faults: 1


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

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main.c

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```c
int main() {
    int pages[MAX_PAGES], n, frames;

    printf("Enter the number of pages: ");
    scanf("%d", &n);

    printf("Enter the page reference sequence: ");
    for (int i = 0; i < n; i++) {
        scanf("%d", &pages[i]);
    }

    printf("Enter the number of frames: ");
    scanf("%d", &frames);

    optimalPageReplacement(pages, n, frames);

    return 0;
}
```

```
Enter the number of pages: 1
Enter the page reference sequence: 2
Enter the number of frames: 3
Step 1:  2  -  -
Total Page Faults: 1


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

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main.c | Share | Run | Output

```c
int main() {
    Record records[MAX_RECORDS];
    int n;

    printf("Enter the number of records: ");
    scanf("%d", &n);
    getchar(); // Consume newline

    for (int i = 0; i < n; i++) {
        records[i].id = i + 1;
        printf("Enter data for record %d: ", i + 1);
        fgets(records[i].data, RECORD_SIZE, stdin);
        records[i].data[strcspn(records[i].data, "\n")] = 0; //
            Remove newline
    }

    readSequentialFile(records, n);
    return 0;
}
```

```
Enter the number of records: 2
Enter data for record 1: 1
Enter data for record 2: 2

Reading file sequentially:
Record 1: 1
Record 2: 2


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

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main.c | Share | Run | Output

```c
    int n;

    printf("Enter the number of blocks: ");
    scanf("%d", &n);
    getchar(); // Consume newline

    indexBlock.blockCount = n;
    for (int i = 0; i < n; i++) {
        blocks[i].id = i + 1;
        printf("Enter data for block %d: ", i + 1);
        fgets(blocks[i].data, BLOCK_SIZE, stdin);
        blocks[i].data[strcspn(blocks[i].data, "\n")] = 0; // Remove newline
        indexBlock.blockPointers[i] = i;
    }

    readIndexedFile(blocks, indexBlock);
    return 0;
}
```

```
Enter the number of blocks: 2
Enter data for block 1: 1
Enter data for block 2: 5

Reading file using indexed allocation:
Block 1: 1
Block 2: 5


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

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main.c | Share | Run | Output

```c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

#define MAX_BLOCKS 100
#define BLOCK_SIZE 50

// Structure to represent a file block
typedef struct FileBlock {
    int id;
    char data[BLOCK_SIZE];
    struct FileBlock *next;
} FileBlock;

// Function to read file using linked allocation
void readLinkedFile(FileBlock *head) {
    printf("\nReading file using linked allocation:\n");
    FileBlock *current = head;
    while (current != NULL) {
        printf("Block %d: %s\n", current->id, current->data);
```

```
Enter the number of blocks: 3
Enter data for block 1: 1
Enter data for block 2: 4
Enter data for block 3: 1

Reading file using linked allocation:
Block 1: 1
Block 2: 4
Block 3: 1


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

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main.c | Share | Run | Output

```c
#include <stdio.h>
#include <stdlib.h>

#define MAX_REQUESTS 100

// Function to simulate FCFS disk scheduling
void fcfsDiskScheduling(int requests[], int n, int head) {
    int totalMovement = 0;

    printf("\nDisk request order: ");
    for (int i = 0; i < n; i++) {
        printf("%d ", requests[i]);
        totalMovement += abs(requests[i] - head);
        head = requests[i];
    }

    printf("\nTotal head movement: %d\n", totalMovement);
}

int main() {
```

```
Enter the number of disk requests: 4
Enter the disk request sequence: 4
4
3
2
Enter the initial head position: 1

Disk request order: 4 4 3 2
Total head movement: 5


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

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main.c | Share | Run | Output

```c
#include <stdio.h>
#include <stdlib.h>

#define MAX_REQUESTS 100

// Function to simulate C-SCAN disk scheduling
void cScanDiskScheduling(int requests[], int n, int head, int diskSize) {
    int totalMovement = 0, i;
    int left[MAX_REQUESTS], right[MAX_REQUESTS], lCount = 0, rCount = 0;

    // Separating requests into left and right of head
    for (i = 0; i < n; i++) {
        if (requests[i] < head)
            left[lCount++] = requests[i];
        else
            right[rCount++] = requests[i];
    }

```

```
Enter the number of disk requests: 6
Enter the disk request sequence: 1
2
3
45

5
6
Enter the initial head position: 8
Enter the disk size: 8

Disk request order: 1 2 3 4 5 6
Total head movement: 14


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

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```
    }

    // Sorting left and right requests
    for (i = 0; i < lCount - 1; i++) {
        for (int j = 0; j < lCount - i - 1; j++) {
            if (left[j] > left[j + 1]) {
                int temp = left[j];
                left[j] = left[j + 1];
                left[j + 1] = temp;
            }
        }
    }
    for (i = 0; i < rCount - 1; i++) {
        for (int j = 0; j < rCount - i - 1; j++) {
            if (right[j] > right[j + 1]) {
                int temp = right[j];
                right[j] = right[j + 1];
                right[j + 1] = temp;
            }
        }
```

```
Enter the number of disk requests: 4
Enter the disk request sequence: 5

1
2
3
Enter the initial head position: 4
Enter the disk size: 4
Enter direction (1 for high, 0 for low): 1

Disk request order: 5 3 2 1
Total head movement: 5


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

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main.c

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```c
#include <stdio.h>
#include <sys/types.h>
#include <sys/stat.h>
#include <unistd.h>

int main() {
    const char *filename = "example.txt";

    struct stat fileStat;

    // Get the file status
    if (stat(filename, &fileStat) < 0) {
        perror("stat");
        return 1;
    }

    // Display current permissions
    printf("File: %s\n", filename);
    printf("Permissions: ");
    printf( (S_IRUSR & fileStat.st_mode) ? "r" : "-");
```

```
stat: No such file or directory


=== Code Exited With Errors ===
```

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