

Programiz
 C Online Compiler

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main.c

Run

Output

Clear

```

1 #include <stdio.h>
2 #define DISK_SIZE 16
3 #define INODE_BLOCKS 8
4 #define DATA_BLOCKS 8
5 #define BLOCK_SIZE 1024
6 #define MIN_FILE_SIZE 1024
7- int main() {
8     int disk[DISK_SIZE] = {0}; // Initialize all blocks to 0
9     int inode_blocks[INODE_BLOCKS] = {0}; // Inode blocks
10    int data_blocks[DATA_BLOCKS] = {0}; // Data blocks
11    int start_block, num_blocks, i, j;
12    int file_size;
13-    while (1) {
14        printf("Enter file size in bytes (minimum %d bytes): ", MIN_FILE_SIZE);
15        scanf("%d", &file_size);
16-        if (file_size < MIN_FILE_SIZE) {
17            printf("File size is too small. Minimum file size is %d bytes.\n", MIN_FILE_SIZE);
18            continue;
19        }
20        num_blocks = (file_size + BLOCK_SIZE - 1) / BLOCK_SIZE;
21        start_block = -1;
22-        for (i = 0; i < DATA_BLOCKS - num_blocks + 1; i++) {
23-            for (j = i; j < i + num_blocks; j++) {
24-                if (data_blocks[j]) {
25                    break;
26                }
            }
        }
    }

```

/tmp/LLxfSRzzHd.o
 Enter file size in bytes (minimum 1024 bytes): 4096
 Allocated blocks: 8 9 10 11
 Enter file size in bytes (minimum 1024 bytes): 2048
 Allocated blocks: 12 13
 Enter file size in bytes (minimum 1024 bytes): 1536
 Allocated blocks: 14 15
 Enter file size in bytes (minimum 1024 bytes): 512
 File size is too small. Minimum file size is 1024 bytes.
 Enter file size in bytes (minimum 1024 bytes): 8192
 Not enough contiguous blocks available. Exiting.

main.c

```
21 start_block = -1;
22 for (i = 0; i < DATA_BLOCKS - num_blocks + 1; i++) {
23     for (j = i; j < i + num_blocks; j++) {
24         if (data_blocks[j]) {
25             break;
26         }
27     }
28     if (j == i + num_blocks) {
29         start_block = i;
30         break;
31     }
32 }
33 if (start_block == -1) {
34     printf("Not enough contiguous blocks available. Exiting.\n");
35     break;
36 }
37 for (i = start_block; i < start_block + num_blocks; i++) {
38     data_blocks[i] = 1;
39 }
40 printf("Allocated blocks: ");
41 for (i = start_block; i < start_block + num_blocks; i++) {
42     printf("%d ", INODE_BLOCKS + i);
43 }
44 printf("\n");
45 }
46 return 0;
47 }
48
```

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