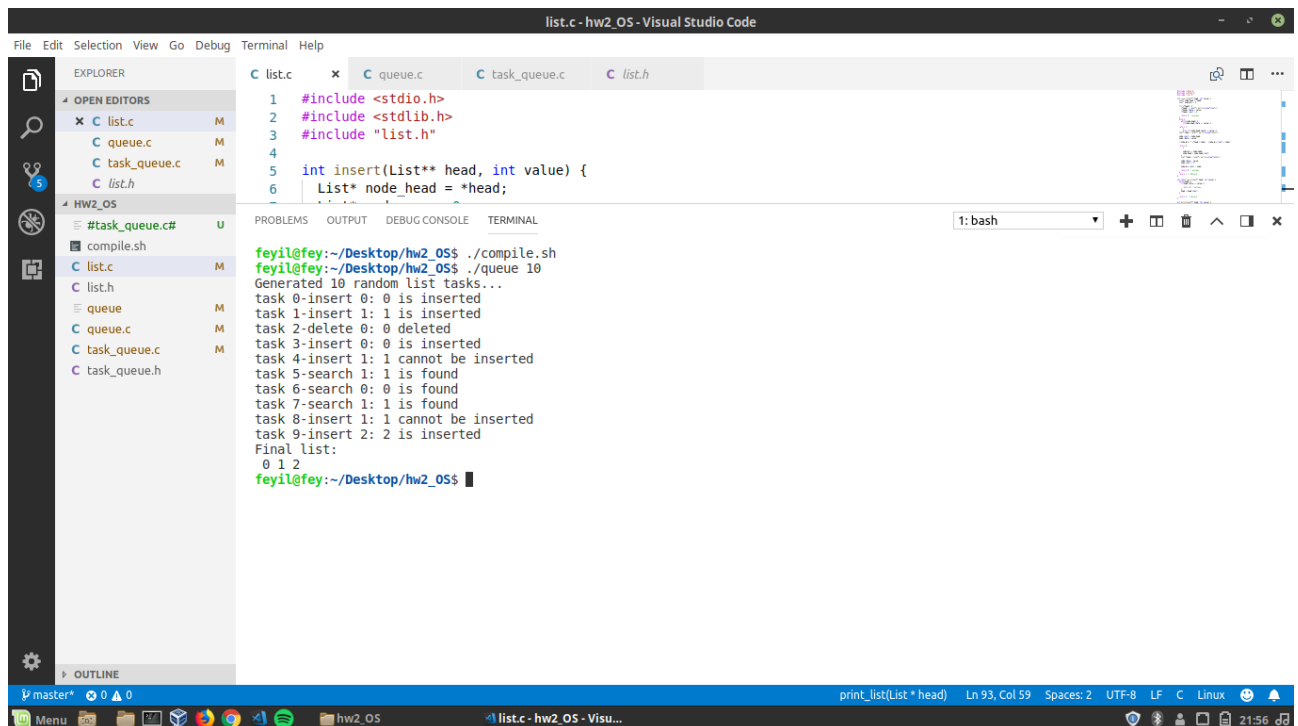


Report of OS Second Assignment

This report includes my test cases for my implementation of given questions. Beside my explanations about my implementation.

I prefer to use different parameter list from given problem statement because I thought it makes more sense to use like that taking head pointer and related data to be processed. I am not in favor of global variable approach because it is not open for extensibility.

In addition to existing functions I added function to print and process tasks.

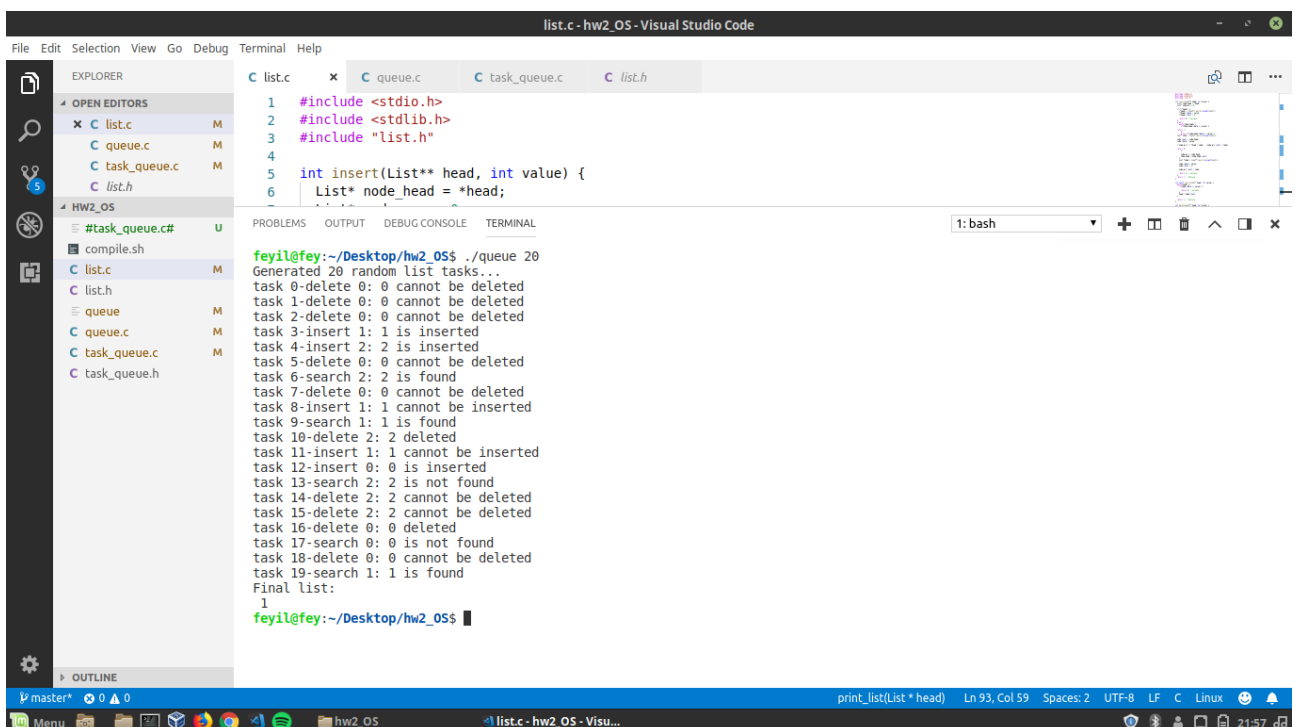


The screenshot shows the Visual Studio Code editor with the following files open: `list.c`, `queue.c`, `task_queue.c`, and `list.h`. The `list.c` file contains the following code:

```
1 #include <stdio.h>
2 #include <stdlib.h>
3 #include "list.h"
4
5 int insert(List** head, int value) {
6     List* node_head = *head;
```

The terminal output shows the execution of a test script `HW2_OS` which runs `compile.sh` and `queue 10`. The output is as follows:

```
feyl@feyl:~/Desktop/hw2_OS$ ./compile.sh
feyl@feyl:~/Desktop/hw2_OS$ ./queue 10
Generated 10 random list tasks...
task 0-insert 0: 0 is inserted
task 1-insert 1: 1 is inserted
task 2-delete 0: 0 deleted
task 3-insert 0: 0 is inserted
task 4-insert 1: 1 cannot be inserted
task 5-search 1: 1 is found
task 6-search 0: 0 is found
task 7-search 1: 1 is found
task 8-insert 1: 1 cannot be inserted
task 9-insert 2: 2 is inserted
Final list:
0 1 2
feyl@feyl:~/Desktop/hw2_OS$
```

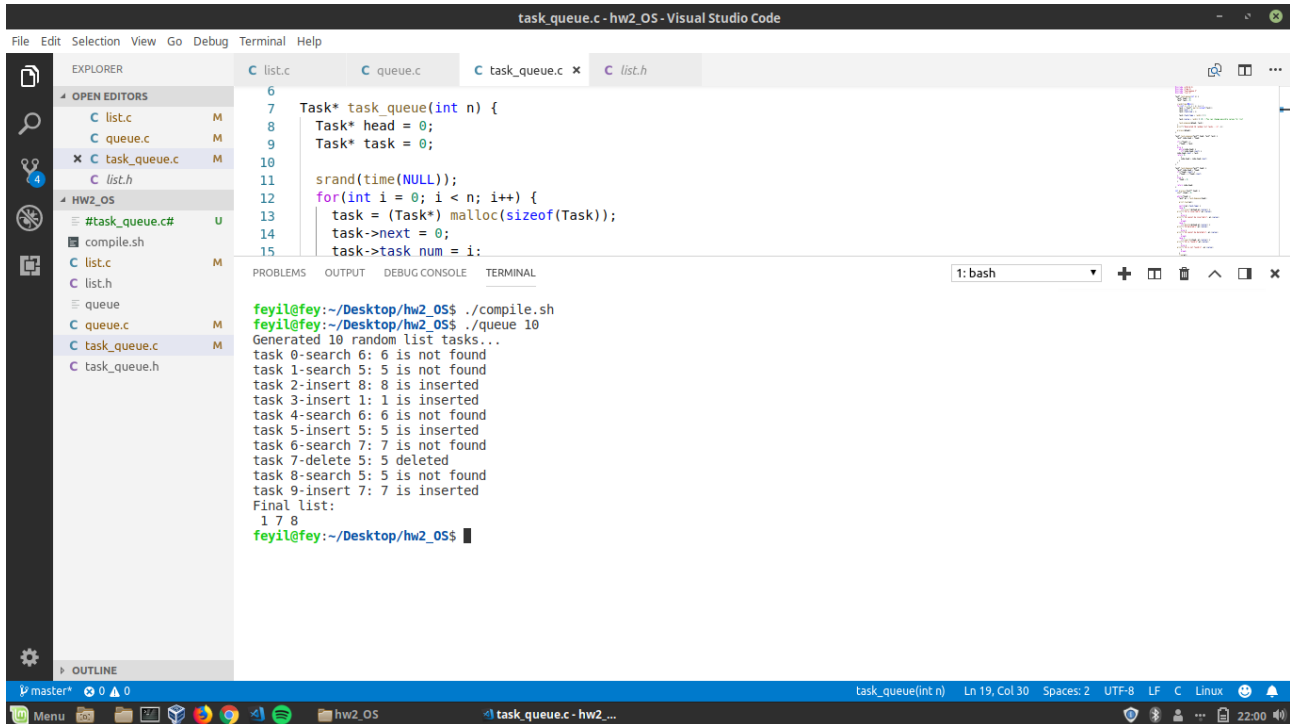


The screenshot shows the Visual Studio Code editor with the following files open: `list.c`, `queue.c`, `task_queue.c`, and `list.h`. The `list.c` file contains the following code:

```
1 #include <stdio.h>
2 #include <stdlib.h>
3 #include "list.h"
4
5 int insert(List** head, int value) {
6     List* node_head = *head;
```

The terminal output shows the execution of a test script `HW2_OS` which runs `compile.sh` and `queue 20`. The output is as follows:

```
feyl@feyl:~/Desktop/hw2_OS$ ./compile.sh
feyl@feyl:~/Desktop/hw2_OS$ ./queue 20
Generated 20 random list tasks...
task 0-delete 0: 0 cannot be deleted
task 1-delete 0: 0 cannot be deleted
task 2-delete 0: 0 cannot be deleted
task 3-insert 1: 1 is inserted
task 4-insert 2: 2 is inserted
task 5-delete 0: 0 cannot be deleted
task 6-search 2: 2 is found
task 7-delete 0: 0 cannot be deleted
task 8-insert 1: 1 cannot be inserted
task 9-search 1: 1 is found
task 10-delete 2: 2 deleted
task 11-insert 1: 1 cannot be inserted
task 12-insert 0: 0 is inserted
task 13-search 2: 2 is not found
task 14-delete 2: 2 cannot be deleted
task 15-delete 2: 2 cannot be deleted
task 16-delete 0: 0 deleted
task 17-search 0: 0 is not found
task 18-delete 0: 0 cannot be deleted
task 19-search 1: 1 is found
Final list:
1
feyl@feyl:~/Desktop/hw2_OS$
```



```
task_queue.c - hw2_OS - Visual Studio Code
File Edit Selection View Go Debug Terminal Help

EXPLORER
OPEN EDITORS
C list.c M
C queue.c M
X C task_queue.c M
C list.h
HW2_OS
#task_queue.c# U
compile.sh
C list.c M
C list.h
C queue
C queue.c M
C task_queue.c M
C task_queue.h

OUTLINE

task_queue.c
6
7 Task* task_queue(int n) {
8     Task* head = 0;
9     Task* task = 0;
10
11     srand(time(NULL));
12     for(int i = 0; i < n; i++) {
13         task = (Task*) malloc(sizeof(Task));
14         task->next = 0;
15         task->task_num = i;
16     }
17 }
18
19 #include <stdio.h>
20 #include <stdlib.h>
21 #include <time.h>
22 #include "list.h"
23 #include "queue.h"
24
25 int main() {
26     int n = 10;
27     Task* task_queue(n);
28     printf("Generated %d random list tasks...\n", n);
29     for(int i = 0; i < n; i++) {
30         printf("task %d-search %d: %d is not found\n", i, task_queue[i].task_num, task_queue[i].next);
31         if(i % 2 == 0) {
32             printf("task %d-insert %d: %d is inserted\n", i, task_queue[i].task_num, task_queue[i].next);
33         } else {
34             printf("task %d-search %d: %d is not found\n", i, task_queue[i].task_num, task_queue[i].next);
35         }
36     }
37     printf("Final list:\n");
38     list_print(task_queue);
39     return 0;
40 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
1: bash
feyl@fey:~/Desktop/hw2_OS$ ./compile.sh
feyl@fey:~/Desktop/hw2_OS$ ./queue 10
Generated 10 random list tasks...
task 0-search 6: 6 is not found
task 1-search 5: 5 is not found
task 2-insert 8: 8 is inserted
task 3-insert 1: 1 is inserted
task 4-search 6: 6 is not found
task 5-insert 5: 5 is inserted
task 6-search 7: 7 is not found
task 7-delete 5: 5 deleted
task 8-search 5: 5 is not found
task 9-insert 7: 7 is inserted
Final list:
1 7 8
feyl@fey:~/Desktop/hw2_OS$
```