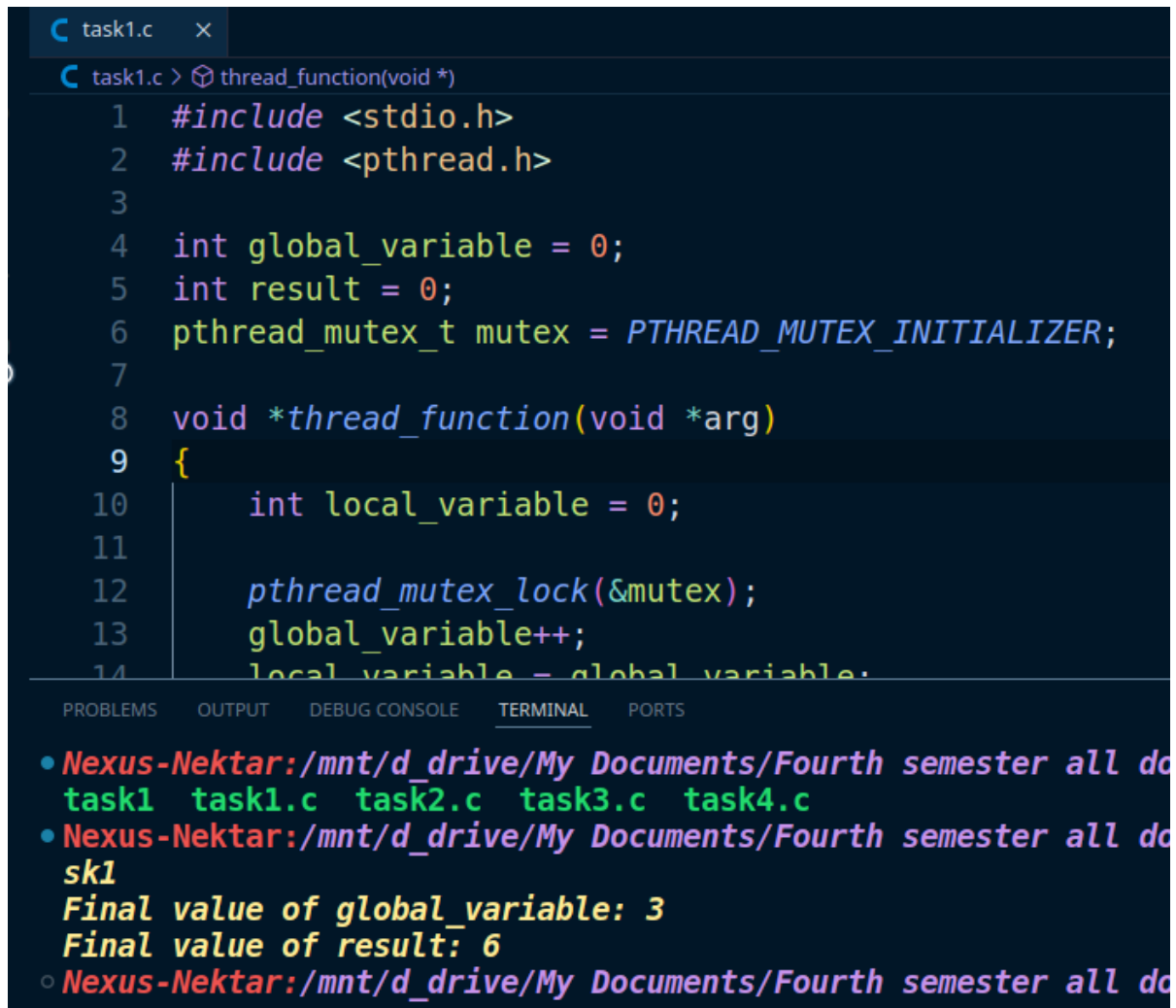


Lab9 Home Tasks

Task 1:



```
task1.c x
task1.c > thread_function(void *)
1  #include <stdio.h>
2  #include <pthread.h>
3
4  int global_variable = 0;
5  int result = 0;
6  pthread_mutex_t mutex = PTHREAD_MUTEX_INITIALIZER;
7
8  void *thread_function(void *arg)
9  {
10     int local_variable = 0;
11
12     pthread_mutex_lock(&mutex);
13     global_variable++;
14     local_variable = global_variable;
```

PROBLEMS OUTPUT DEBUG CONSOLE **TERMINAL** PORTS

- Nexus-Nektar:/mnt/d_drive/My Documents/Fourth semester all documents/Operating Systems (OS)/Lab9 Home Tasks/task1 task1.c task2.c task3.c task4.c
- Nexus-Nektar:/mnt/d_drive/My Documents/Fourth semester all documents/Operating Systems (OS)/Lab9 Home Tasks/task1
Final value of global_variable: 3
Final value of result: 6
- Nexus-Nektar:/mnt/d_drive/My Documents/Fourth semester all documents/Operating Systems (OS)/Lab9 Home Tasks/task1

Task 2:

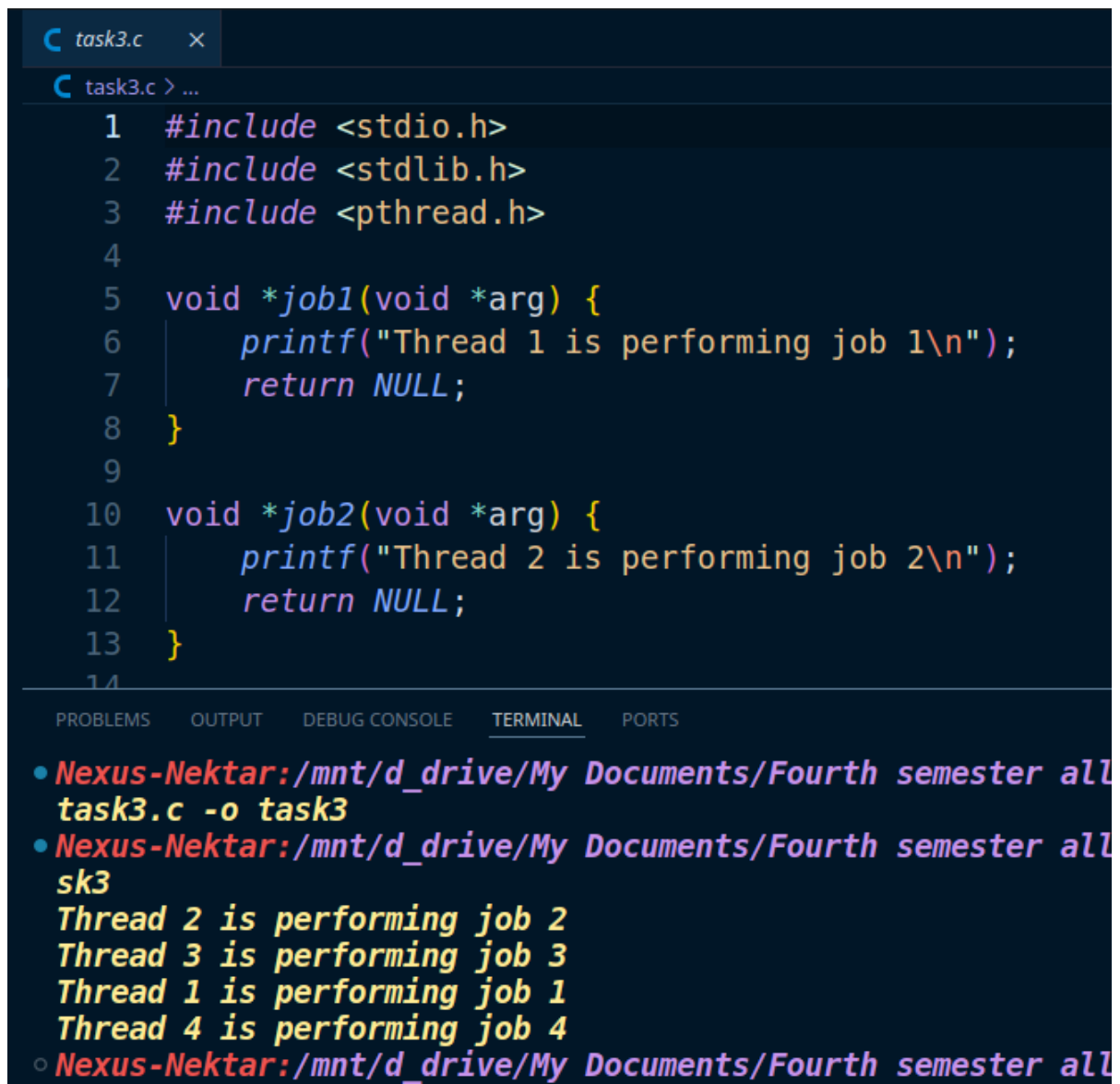


```
task2.c x
task2.c > ...
1  #include <stdio.h>
2  #include <stdlib.h>
3  #include <pthread.h>
4
5  void *print_thread_info(void *arg) {
6     int thread_number = *((int *)arg);
7     pthread_t thread_id = pthread_self();
8     printf("Hello, I am thread %d, my ID is %lu\n", thread_number, thread_id);
9     return NULL;
10 }
11
12 int main() {
13     int num_threads;
14     printf("Enter the number of threads: ");
```

PROBLEMS OUTPUT DEBUG CONSOLE **TERMINAL** PORTS

- Nexus-Nektar:/mnt/d_drive/My Documents/Fourth semester all documents/Operating Systems (OS)/Lab9 Home Tasks/task2 task2.c -o task2
- Nexus-Nektar:/mnt/d_drive/My Documents/Fourth semester all documents/Operating Systems (OS)/Lab9 Home Tasks/task2
Enter the number of threads: 2
Hello, I am thread 1, my ID is 123557384287936
Hello, I am thread 2, my ID is 123557375895232
- Nexus-Nektar:/mnt/d_drive/My Documents/Fourth semester all documents/Operating Systems (OS)/Lab9 Home Tasks/task2

Task 3 :



```
task3.c x
task3.c > ...
1  #include <stdio.h>
2  #include <stdlib.h>
3  #include <pthread.h>
4
5  void *job1(void *arg) {
6      printf("Thread 1 is performing job 1\n");
7      return NULL;
8  }
9
10 void *job2(void *arg) {
11     printf("Thread 2 is performing job 2\n");
12     return NULL;
13 }
14
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

- **Nexus-Nektar:**/mnt/d_drive/My Documents/Fourth semester all task3.c -o task3
- **Nexus-Nektar:**/mnt/d_drive/My Documents/Fourth semester all task3
Thread 2 is performing job 2
Thread 3 is performing job 3
Thread 1 is performing job 1
Thread 4 is performing job 4
- **Nexus-Nektar:**/mnt/d_drive/My Documents/Fourth semester all

Task 4 :

task4.c

task4.c > main()

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  #include <pthread.h>
4  #include <unistd.h>
5
6  void *thread_function(void *arg)
7  {
8      pthread_t tid = pthread_self();
9
10     pid_t pid = getpid();
11
12     printf("Thread ID: %lu, Process ID: %d\n", tid, pid);
13     printf("Thread %lu is executing\n", tid);
14 }
```

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

- **Nexus-Nektar:**/mnt/d_drive/My Documents/Fourth semester all documents/sk4

Thread ID: 126434695706304, Process ID: 7029

Thread 126434695706304 is executing

Thread ID: 126434536310464, Process ID: 7029

Thread 126434536310464 is executing

Thread ID: 126434687313600, Process ID: 7029

Thread 126434687313600 is executing

Thread ID: 126434678920896, Process ID: 7029

Thread 126434678920896 is executing

- **Nexus-Nektar:**/mnt/d_drive/My Documents/Fourth semester all documents/