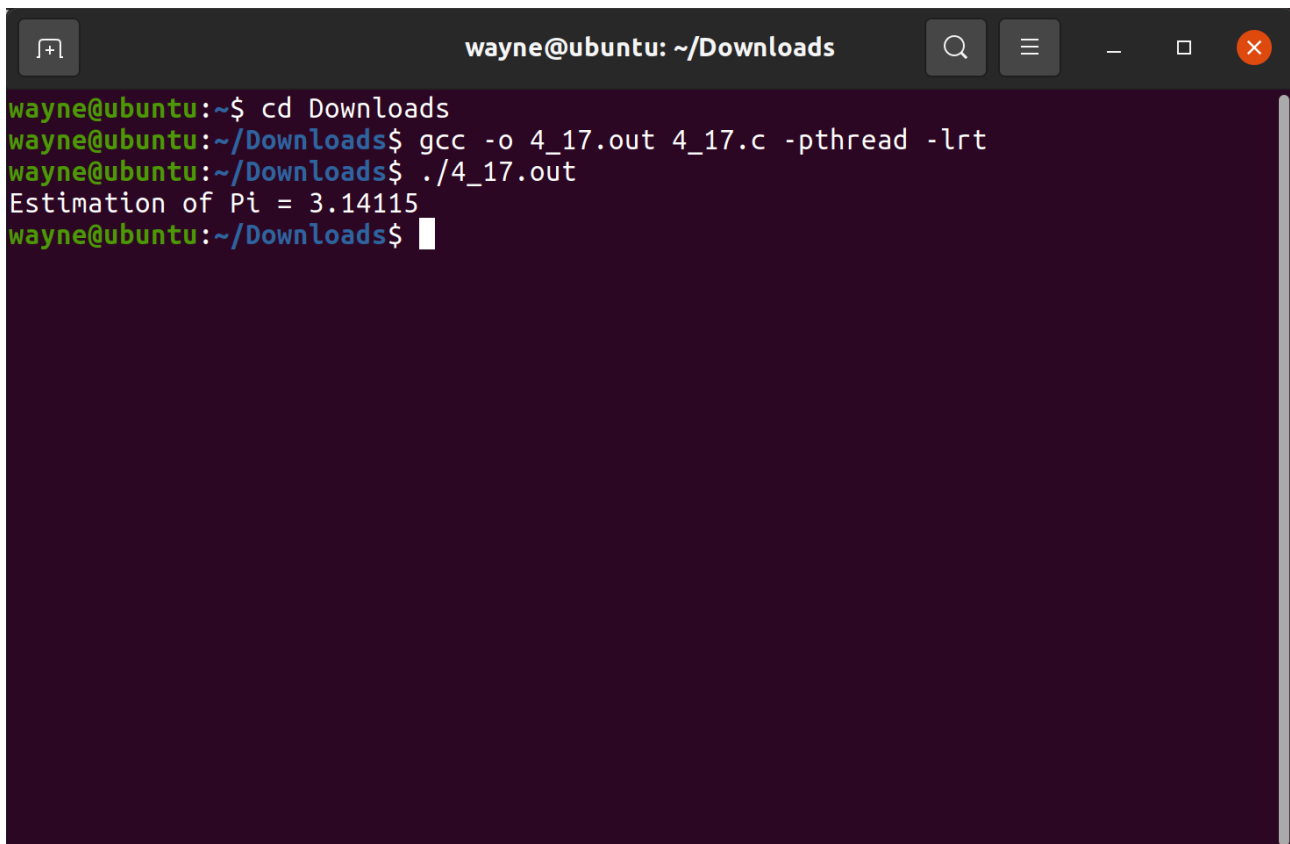


Problem 1 (4.17, code file: 4_17)

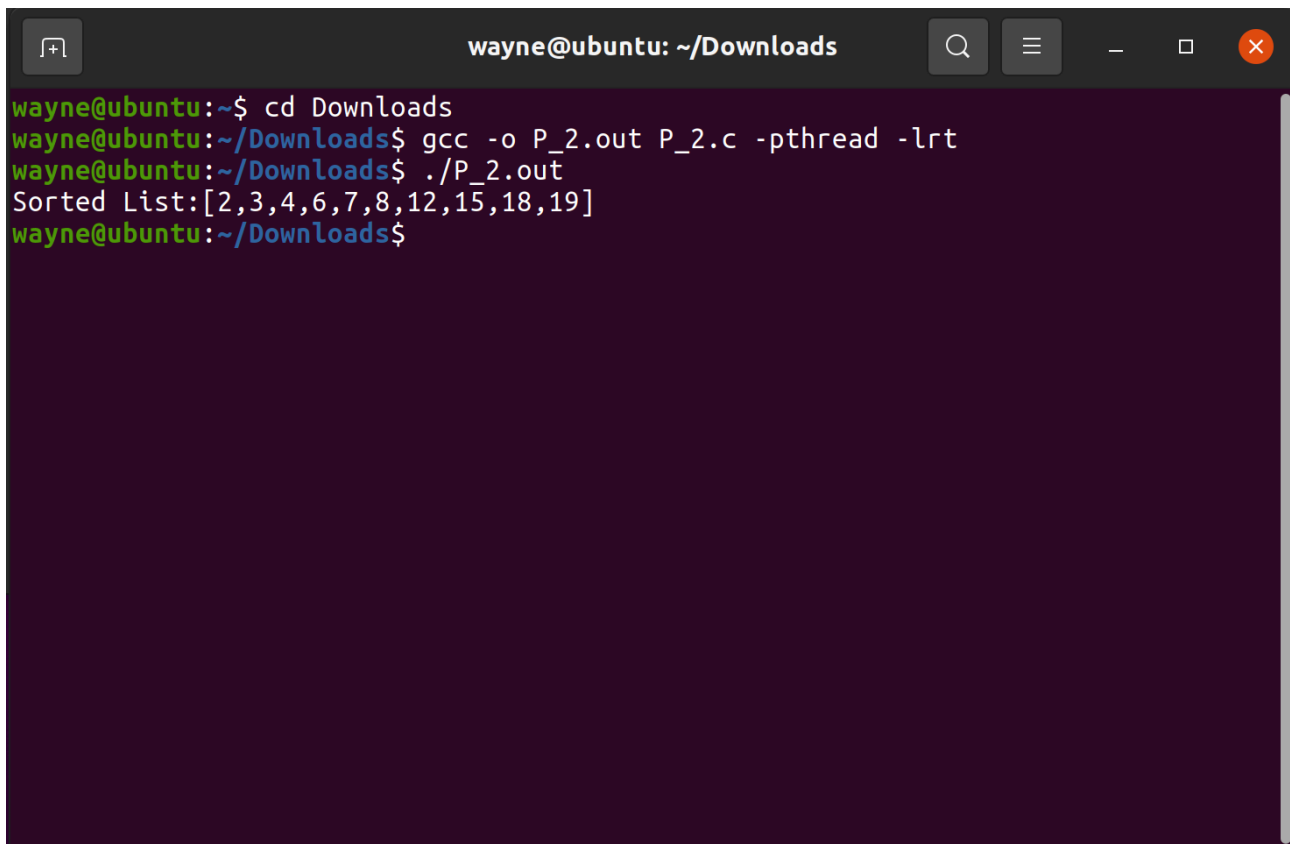


```
wayne@ubuntu: ~/Downloads
wayne@ubuntu:~$ cd Downloads
wayne@ubuntu:~/Downloads$ gcc -o 4_17.out 4_17.c -pthread -lrt
wayne@ubuntu:~/Downloads$ ./4_17.out
Estimation of Pi = 3.14115
wayne@ubuntu:~/Downloads$
```

Explanation:

We use the exact program provided in the homework, and add threads as in the code file. For more detail see the comments in the code.

Problem 2 (Project 2, code file: P_2)

A terminal window titled 'wayne@ubuntu: ~/Downloads' with standard window controls. The terminal shows the following commands and output:

```
wayne@ubuntu:~$ cd Downloads
wayne@ubuntu:~/Downloads$ gcc -o P_2.out P_2.c -pthread -lrt
wayne@ubuntu:~/Downloads$ ./P_2.out
Sorted List:[2,3,4,6,7,8,12,15,18,19]
wayne@ubuntu:~/Downloads$
```

Explanation:

We use insertion sort and a merge function in this problem. Create two threads for split insertion sort and one thread for merging. Finally print the sorted list in the parent (main) thread. Using the unsorted list provided in the example. For more detail see the comments in the code.