

Parallel and Distributed Computing

Laboratory 2

Shared Variables - Mutual Exclusion

Study the code in the folder `Code/shared`. The codes in `Code/shared2` refer to C and Python. Make sure that you understand the use of shared variables.

Study the code in the folders `Code/sharedCounter`, `sharedCounterMutex` (or respectively the folders `Code/SharedCounter2`, `SharedCounterMutex2`). Make sure that you understand the execution mechanisms in the `SharedCounter` codes and the reasons why the result is not the expected one. Make sure that you understand the execution mechanisms in the mutual exclusion codes in `sharedCounterMutex` and the reasons why the result is the expected one.

1. Apply the techniques of the codes `Code/shared`, `Code/sharedCounter` to the `sharedCounterExercise` codes: The `sharedCounterExercise` codes use global variables. Write the same codes but:

- 1.1. Using arguments of `main()`. (2 codes)
- 1.2. Using a shared structure/object. (2 codes)

Execute the codes and make sure that they produce similar results to the original ones.

2. Apply the techniques of the `code/sharedCounterMutex` codes to the `sharedCounterExercise` codes, both the original ones and those you created in step 1.
(In total you should have 6 similar codes.)

Execute the codes and make sure that correct results are produced.