Text of exercise #3

Matteo Corain S256654

Laboratory #1 – System and device programming – A.Y. 2018-19

Write a concurrent program in C language, using `Pthreads`, which takes a filename as an argument in the command line, and implements the precedence graph drawn in the next page. It represents the sequence of operations that a main thread performs for processing the content of a text file.

Each node of the graph represents a thread. All threads are created by the main thread. There are three types of threads:

- The input thread (the main thread) gets the next character from the file in a global variable `next`;
- Each processing thread transforms to upper case the content of a global variable `this`;
- Each output thread prints the content of a global variable `last`.

The small circles in the graph represent synchronization points, where the main thread appropriately updates the content of the global variables.