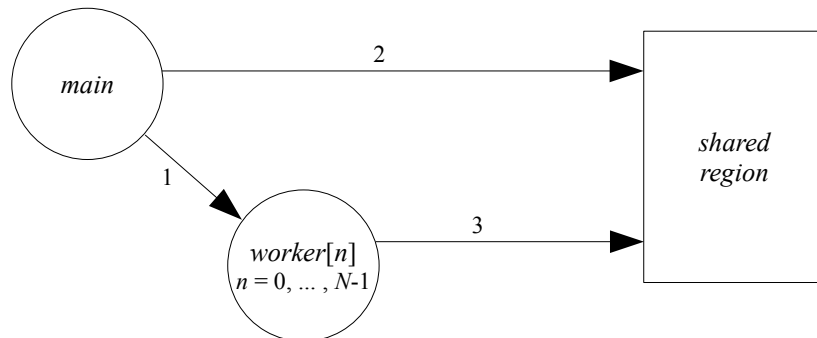


Assignment 1

Take the general problems, which have been discussed in the lab classes and for which you have developed a single-threaded solution. The aim now is to convert them into a multithreaded application running under Linux.

The decomposition in both cases can be described by the following diagram.



OPERATIONS

1. create *worker* threads, wait for them to terminate
2. present the data file names for processing, print results
3. get a piece of data and process it, save partial results.

So, the role of thread *main* will be getting the data file names by processing the command line and storing them in the shared region, creating the *worker* threads and waiting for their termination, and printing the results of the processing. On the other hand, the role of threads *worker* will be carrying out the processing itself: they request in succession pieces of data to process, process it and deliver the results of their processing. They terminate when there are no more data pieces to process.

GRADING

- development and validation of a multithreaded version of one of the general problems according to specification – 14 points
- development and validation of a multithreaded version of the other general problem according to specification – 20 points.

DELIVARABLES

- an archive, named `CLE1_T$G#.zip` (where \$, equal to 1 or 2, means the lab number, and #, equal to 1, ..., 10, means the group number) containing both the source files of your solution to the two problems and a pdf file, named `present.pdf`, up to 6 pages (power point like), where the main ideas of the design of the solutions to the two problems and the results that were obtained, are discussed
- the archive should result from the compression of a directory, named `CLE1_T$G#`, containing two subdirectories, named `prog1` and `prog2`, and the file `present.pdf`.

DEADLINE

- April, 25, at midnight.