Concurrent and distributed programming (Exercises)

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Comments

The programming exercises seem to be easy when you read their description, however, you will notice, they are not that easy once you try to solve them.

Starting I

1. Write the "hello world" program in Java.

2. Write a "hello world, thread ... speaking" program using a set of threads (consider taking a close look to the manual pages of `Thread` and `Runnable` and use both possibilities.)

3. Measure how many threads you can start and keep alive.

Starting II

④ Measure how much time a single thread needs to execute a certain task, e.g., writing 100000 times "hello world", and how much time a set of, let's say, 1000 threads needs to perform the same task distributing the work among them. Generate a diagram plotting the execution time over the number of running threads.

⑤ Change the work to be done by something that does not use output operations, and generate the same plot as above.

⑥ Make sure that your programs terminate smoothly, i.e., all participating threads reach their final "}".

Starting III

Describe precisely your observations (dependencies of the results on the operating system, system load, work load, kernel number, etc.).