Scheduling

1 Scheduling

This exercise is about finding the most appropriate schedule for parallel loops.

2 Package content

In the `sched` directory you will find the following files:

- `main.c`: this file contains the main program that executes three loops and prints on the screen the duration of all the iterations of these loops. **Only this file has to be modified for this exercise**.

- `aux.c, aux.h`: these two files contain auxiliary routines and **must not be modified**.

The code can be compiled with the `make` command: just type `make` inside the `sched` directory; this will generate a `main` program that can be run like this:

```
$ ./main n
```

where n is the number of iterations in the loops.

3 Assignment

- ⌨ Run the sequential code to get an idea of how the duration of the iteration varies in the three loops. Based on this observation, parallelize the three loops using the most appropriate schedule for each of them. In each of the three loops, compute the load of each process, i.e., the total time each process spends in all the iterations it executes. Finally, compute the maximum and minimum load among all processes and report the balance, i.e., the maximum divided by the minimum; if the balance is close to 1, it means that the chosen schedule was good

- ✎ Explain, in the form of code comments, your choice of schedule for each loop and report execution times and balance for the three loops using 1, 2 and 4 threads.