Università della Svizzera italiana

Institute of Computing
CI

High-Performance Computing Lab **Institute of Computing**

Student: FULL NAME Discussed with: FULL NAME

Solution for Project 2

HPC Lab — Submission Instructions
(Please, notice that following instructions are mandatory: submissions that don't comply with, won't be considered)

- Assignments must be submitted to iCorsi (i.e. in electronic format).
- Provide both executable package and sources (e.g. C/C++ files, Matlab). If you are using libraries, please add them in the file. Sources must be organized in directories called:
  Project_number_lastname_firstname
  and the file must be called:
  project_number_lastname_firstname.zip
  project_number_lastname_firstname.pdf
- The TAs will grade your project by reviewing your project write-up, and looking at the implementation you attempted, and benchmarking your code's performance.
- You are allowed to discuss all questions with anyone you like; however: (i) your submission must list anyone you discussed problems with and (ii) you must write up your submission independently.

This project will introduce you to parallel programming using OpenMP.

1. Parallel reduction operations using OpenMP *(20 Points)*

2. The Mandelbrot set using OpenMP *(20 Points)*

3. Bug hunt *(15 Points)*

4. Parallel histogram calculation using OpenMP *(15 Points)*

5. Parallel loop dependencies with OpenMP *(15 Points)*

6. Quality of the Report *(15 Points)*