**DIGITAL SYSTEMS ELECTRONICS**

Academic year 2021-2022

LABORATORY NR. 1

DUE DATE: March 21, 2022

DELIVERY DATE: March 20, 2022

GROUP XY

CONTRIBUTIONS:

* Gabriela Silva 100%
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* Paolo Rossi 70%

The members of the group listed above declare under their own responsibility that no part of this document has been copied from other documents and that the associated code is original and has been developed expressly for the assigned project.

Contents

Brief introduction to the content of the report.

Provide elements like:

* aim of this project
* content and structure of the document
* if necessary, comments on the individual contribution of each group member (if not uniform.

A recommended document structure has one Section per assignment. Therefore, the report for Laboratory 1 will have three Sections:

1. Controlling the LEDs

…

1. 2-to-1 Multiplexer

…

1. 5-to-1 Multiplexer

…

Divide ach Section in three parts:

1. Design Entry, which describes the circuit to be implemented on the FPGA device (device under test, or DUT). Normally, you do not need to report the VHDL code. Just indicate the overall architecture of the circuit, by reporting the name of the source file or files and the key role of each of them. Of course, this is relevant especially for larger design, with a hierarchical organization or a mixed structural and behavioral style.
2. Functional Simulation, which describes the testbench and the approach used to assess the completed design. Also in this part, only provide portions of VHDL code if it is strictly required to support your description.
3. Synthesis, which describes the synthesis process and results. According to the specific assignment, you can provide here waveforms, tables or any other element useful to indicate the final achievements.

If you need it, you can also insert one final Section of comments or general conclusions. As a rule, a concise while complete document is very much appreciated. The whole document, at least for the initial laboratory sessions, should not be longer than five or six pages.