

Embedded Des Enabling Robotics
Lab 6 report

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Introduction

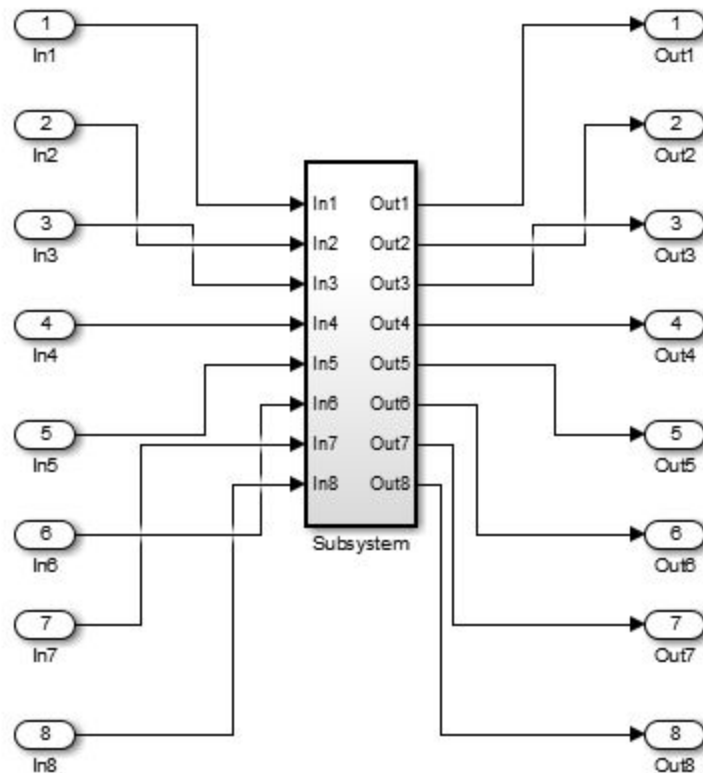
The goal of this lab is to develop a digital design and download the design on the FPGA using Simulink. We used the Simulink HDL Coder to program the FPGA on the ZedBoard.

Lab Preparation

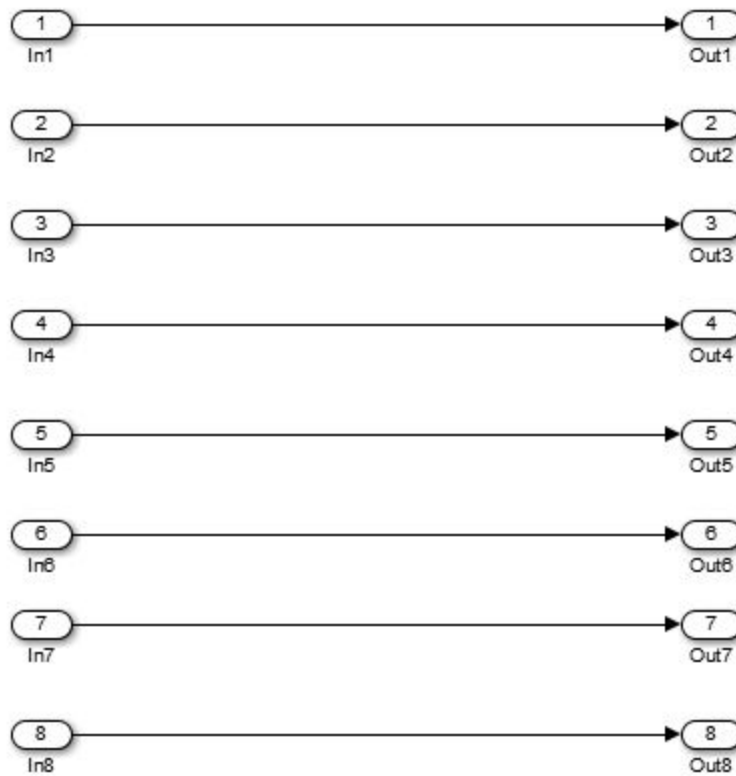
We first logged onto the computer using our credentials. We then connected the Zedboard to the PC host via Ethernet to the RJ45 connector. The ZedBoard was boosted after connected to the computer. We made an SSN connection to the ZedBoard where the IP is 192.168.1.10, and port 22. We opened the Matlab from “System Generator”, and we opened the Simulink Library.

Lab 6.1

We followed all the steps provided on the lab manual. What we have created is as follows:



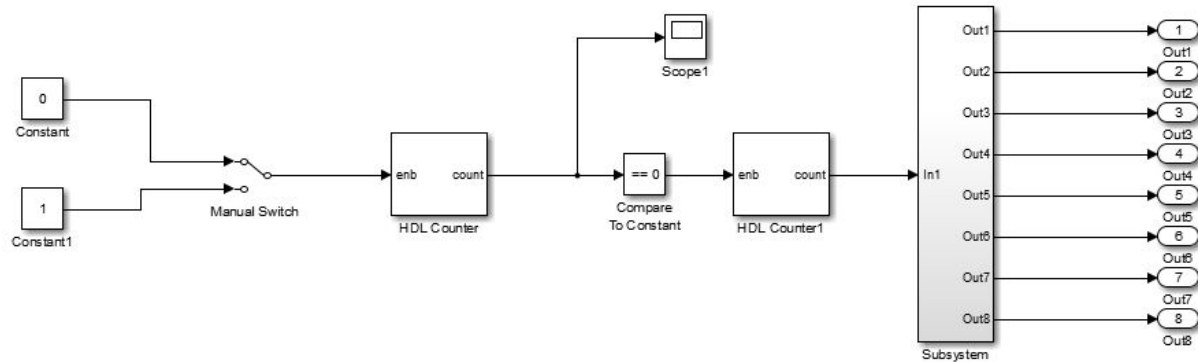
Subsystem:



When we switched on a certain switch, the corresponding LED is switched on.

Lab 6.2

In this lab, we instantiated our pre-lab 6.3 to assist this design:



Subsystem:

Then we repeat the FPGA validation again like in 6.1.

Lab 6.3

We used the cascaded counter in prelab as a temp to make this.

6.3.2 Calculation; $250\text{ms} * 50\text{MHZ} = 1.25 * 10^7 \text{ Hz/s}$

