The grading rubric found on the course website applies to all ladder logic exercises in this and all homework/project assignments. The course instructor reserves the right to grade any or all problems (i.e. not all problems may be counted in the grade reported in the course gradesheet).

1. Using the Allen Bradley PLC trainers in 2003 SERC, design a program such that output O:0.0/0 on one PLC through O:0.0/5 on a second PLC are energized when the input from analog channel 1 (i.e. I:1.1) is in the ranges [0,1000], [1001, 2000], [4001,5000] to [11001,12000] respectively. All outputs should flash continuously at the rate of one time per second for any input value above 12000.

<table>
<thead>
<tr>
<th>I:1.1 Range</th>
<th>Energized Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1000</td>
<td>O:0.0/0 (local PLC)</td>
</tr>
<tr>
<td>1001-2000</td>
<td>O:0.0/1 (local PLC)</td>
</tr>
<tr>
<td>2001-3000</td>
<td>O:0.0/2 (local PLC)</td>
</tr>
<tr>
<td>3001-4000</td>
<td>O:0.0/3 (local PLC)</td>
</tr>
<tr>
<td>4001-5000</td>
<td>O:0.0/4 (local PLC)</td>
</tr>
<tr>
<td>5001-6000</td>
<td>O:0.0/5 (local PLC)</td>
</tr>
<tr>
<td>6001-7000</td>
<td>O:0.0/0 (remote PLC)</td>
</tr>
<tr>
<td>7001-8000</td>
<td>O:0.0/1 (remote PLC)</td>
</tr>
<tr>
<td>8001-9000</td>
<td>O:0.0/2 (remote PLC)</td>
</tr>
<tr>
<td>9001-10000</td>
<td>O:0.0/3 (remote PLC)</td>
</tr>
<tr>
<td>10001-11000</td>
<td>O:0.0/4 (remote PLC)</td>
</tr>
<tr>
<td>11001-12000</td>
<td>O:0.0/5 (remote PLC)</td>
</tr>
</tbody>
</table>

2. Using the Unitronics PLC/HMI, program the equivalent of the Door Simulation Exercise #4 (http://www.thelearningpit.com/lp/doc/dl/dl-rl.html) from the PLC simulator website. In addition to the functionality provided by the ladder logic, you must create an HMI screen that mimics the operation of the door simulation as closely and as professionally as possible.

In addition to the program hardcopy and documentation required by the grading rubric, submit your PLC programs via email not later than class time on the due date. Name the files hw6-1.rss and hw6-2.vlp.