ECEN 240

Homework – Lesson 11 Part 2

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1. Draw the state graph for a 3-bit counter which counts in the Gray-code shown in the transition table below. Include a Z “Moore” output for each of the current states that meet the following criteria:

* Current state is odd but previous state was even (treat 000 as an even number)
* Current state is even but previous state was odd.

|  |  |
| --- | --- |
| **Current\_State** | **Next\_State** |
| 000 | 001 |
| 001 | 011 |
| 010 | 110 |
| 011 | 010 |
| 100 | 000 |
| 101 | 100 |
| 110 | 111 |
| 111 | 101 |

2. Draw the state graph for a 3-bit up/down counter which has the following inputs: CLR, INC, DEC. Make it so the inputs have priority in that order. Add a Z output which signifies when the current state of the counter is either ‘010’ or ‘110’.