DLD Project Cases

|  |  |  |  |
| --- | --- | --- | --- |
| 0 | 0 | 1 | **m** |
| 0 | 1 | 2 | 2 |
| 1 | 2 | **m** | 2 |
| **m** | 2 | 2 | **m** |

Case 1 Case 2 Case 3

|  |  |  |  |
| --- | --- | --- | --- |
| 2 | **m** | 2 | 0 |
| 2 | **m** | 3 | 1 |
| 2 | 2 | 2 | **m** |
| **m** | 1 | 1 | 1 |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | 1 | 1 | **m** |
| **m** | 1 | 1 | 1 |
| 2 | 3 | 2 | 1 |
| 1 | **m** | **m** | 1 |

LED Truth Table

Red if 3, otherwise off

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **A** | **B** | **C** | **D** | **Output** |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 1 | 0 | 0 |
| 0 | 0 | 1 | 1 | 0 |
| 0 | 1 | 0 | 0 | 0 |
| 0 | 1 | 0 | 1 | 0 |
| 0 | 1 | 1 | 0 | 0 |
| 0 | 1 | 1 | 1 | 1 |
| 1 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 1 | 0 |
| 1 | 0 | 1 | 0 | 0 |
| 1 | 0 | 1 | 1 | 1 |
| 1 | 1 | 0 | 0 | 0 |
| 1 | 1 | 0 | 1 | 1 |
| 1 | 1 | 1 | 0 | 1 |
| 1 | 1 | 1 | 1 | 1 |

Equation: ABD+BCD+ACD+ABC

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | **BCD** | | | |
| **A** | **B** | **C** | **D** | **Number** | **a** | **b** | **c** | **d** |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 0 | 0 | 1 | 1 | 2 | 0 | 0 | 1 | 0 |
| 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 0 | 1 | 0 | 1 | 2 | 0 | 0 | 1 | 0 |
| 0 | 1 | 1 | 0 | 2 | 0 | 0 | 1 | 0 |
| 0 | 1 | 1 | 1 | 3 | 0 | 0 | 1 | 1 |
| 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 0 |
| 1 | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 0 |
| 1 | 0 | 1 | 1 | 3 | 0 | 0 | 1 | 1 |
| 1 | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 0 |
| 1 | 1 | 0 | 1 | 3 | 0 | 0 | 1 | 1 |
| 1 | 1 | 1 | 0 | 3 | 0 | 0 | 1 | 1 |
| 1 | 1 | 1 | 1 | 4 | 0 | 1 | 0 | 0 |

a = 0

b = ABCD

c = A’BD+AC’D+ABD’+AB’C+A’BC+B’CD

d = A⊕B⊕C⊕D