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Lab 03: CAD downloading and testing

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**Preparation**

Car Alarm UCF

NET Alarm LOC = "J14";

NET Seat LOC = "L13";

NET Key LOC = "N17";

NET Door LOC = "R17";

Car alarm truth tables simulation vs download

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Seat | Key | Door | Alarm (simulate) | Alarm(Download) |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 |
| 0 | 1 | 0 | 1 | 1 |
| 0 | 1 | 1 | 1 | 1 |
| 1 | 0 | 0 | 0 | 0 |
| 1 | 0 | 1 | 0 | 0 |
| 1 | 1 | 0 | 1 | 1 |
| 1 | 1 | 1 | 0 | 0 |

**Procedure**

Alarm Fan UCF

NET "fan" LOC = "J14";

NET "alarm" LOC = "J15";

NET "high\_temp" LOC = "L13";

NET "low\_bat" LOC = "N17";

NET "cord" LOC = "R17";

Alarm Fan truth tables simulation vs download

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Cord | Low bat | High temp | Alarm (sim) | Alarm (real) | Fan (sim) | Fan (real) |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 0 | 0 | 1 | 1 |

Problem 2.1 UCF

NET "f1\_simple" LOC = "J14";

NET "f1" LOC = "J15"; JD9/LD1

NET "d" LOC = "L14";

NET "c" LOC = "L13";

NET "b" LOC = "N17";

NET "a" LOC = "R17";

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Problem 2.1 Truth tables sim vs real | | | | | | | |
| A | B | C | D | (AB+C)’D(AB+C+D)  (Simulation) | | Physical | |
| Orig | Simple | Orig | Simple |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |

Problem 2.2 UCF

NET "output\_simplified" LOC = "J14";

NET "output\_1" LOC = "J15";

NET "D" LOC = "L14";

NET "C" LOC = "L13";

NET "B" LOC = "N17";

NET "A" LOC = "R17";

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Problem 2.2 Truth tables sim vs real | | | | | | | |
| A | B | C | D | (AB+C)’D(AB+C+D)  (Simulation) | | Physical | |
| orig | simple | Orig | Simple |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |

**Anomalies**

Everything was pretty simple in this lab. The hardest part was figuring out the tables in word. And making the columns so that it is easier to read.