# ­­­­­­­­Lab 3 Deliverables

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Truth Table

(8th bit corresponds to dp, decimal point, which is always 1, or off)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| in | a | b | c | d | e | f | g | out |
| 0000 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | “0” |
| 0001 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | “1” |
| 0010 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | “2” |
| 0011 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | “3” |
| 0100 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | “4” |
| 0101 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | “5” |
| 0110 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | “6” |
| 0111 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | “7” |
| 1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | “8” |
| 1001 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | “9” |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A | 00 | 01 | 11 | 10 |
| 00 | 0 | 1 | 0 | 0 |
| 01 | 1 | 0 | 0 | 0 |
| 11 | 1 | 1 | 1 | 1 |
| 10 | 0 | 0 | 1 | 1 |

a = AB + AC + BC’D’ + A’B’C’D

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| B | 00 | 01 | 11 | 10 |
| 00 | 0 | 0 | 0 | 0 |
| 01 | 0 | 1 | 0 | 1 |
| 11 | 1 | 1 | 1 | 1 |
| 10 | 0 | 0 | 1 | 1 |

b = AB + AC + BC’D + BCD’

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| C | 00 | 01 | 11 | 10 |
| 00 | 0 | 0 | 0 | 1 |
| 01 | 0 | 0 | 0 | 0 |
| 11 | 1 | 1 | 1 | 1 |
| 10 | 0 | 0 | 1 | 1 |

c = AB + AC + B’CD’

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| D | 00 | 01 | 11 | 10 |
| 00 | 0 | 1 | 0 | 0 |
| 01 | 1 | 0 | 1 | 0 |
| 11 | 1 | 1 | 1 | 1 |
| 10 | 0 | 0 | 1 | 1 |

d = AB + AC + BC’D’ + BCD + A’B’C’D

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| E | 00 | 01 | 11 | 10 |
| 00 | 0 | 1 | 1 | 0 |
| 01 | 1 | 1 | 1 | 0 |
| 11 | 1 | 1 | 1 | 1 |
| 10 | 0 | 1 | 1 | 1 |

e = D + BC’D’ + ACD’

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| F | 00 | 01 | 11 | 10 |
| 00 | 0 | 1 | 1 | 1 |
| 01 | 0 | 0 | 1 | 0 |
| 11 | 1 | 1 | 1 | 1 |
| 10 | 0 | 0 | 1 | 1 |

f = AB + CD = B’C = A’B’D

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| G | 00 | 01 | 11 | 10 |
| 00 | 1 | 1 | 0 | 0 |
| 01 | 0 | 0 | 1 | 0 |
| 11 | 1 | 1 | 1 | 1 |
| 10 | 0 | 0 | 1 | 1 |

g = AB + AC = A’B’C’ + BCD

