

Assignment 1

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Q: Implement BCD to Excess3 converter using Mux.

BCD Input				Excess 3 Output			
A	B	C	D	W	X	Y	Z
0	0	0	0	0	0	1	1
0	0	0	1	0	1	0	0
0	0	1	0	0	1	0	1
0	0	1	1	0	1	1	0
0	1	0	0	0	1	1	1
0	1	0	1	1	0	0	0
0	1	1	0	1	0	0	1
0	1	1	1	1	0	1	0
1	0	0	0	1	0	1	1
1	0	0	1	1	1	0	0

For W:

	I ₀	I ₁	I ₂	I ₃	I ₄	I ₅	I ₆	I ₇
\bar{A}	0	0	0	0	0	1	1	1
A	1	1	d	d	d	d	d	d
	A	A	0	0	0	\bar{A}	\bar{A}	\bar{A}

For X:

	I ₀	I ₁	I ₂	I ₃	I ₄	I ₅	I ₆	I ₇
\bar{A}	0	1	1	1	1	0	0	0
A	0	1	d	d	d	d	d	d
	0	1	\bar{A}	\bar{A}	\bar{A}	0	0	0

For Y:

	I ₀	I ₁	I ₂	I ₃	I ₄	I ₅	I ₆	I ₇
\bar{A}	1	0	0	1	1	0	0	1
A	1	0	d	d	d	d	d	d
	1	0	0	\bar{A}	\bar{A}	0	0	\bar{A}

For Z:

	I ₀	I ₁	I ₂	I ₃	I ₄	I ₅	I ₆	I ₇
\bar{A}	1	0	1	0	1	0	1	0
A	1	0	d	d	d	d	d	d
	1	0	\bar{A}	0	\bar{A}	0	\bar{A}	0

Truth Table:

