Recitation#9: Mux Application

CS232 Spring 2021

When: March 26 at 2:00 pm

a) Given the function Z = B'C + A'BD + AB', fill in the truth-table below.

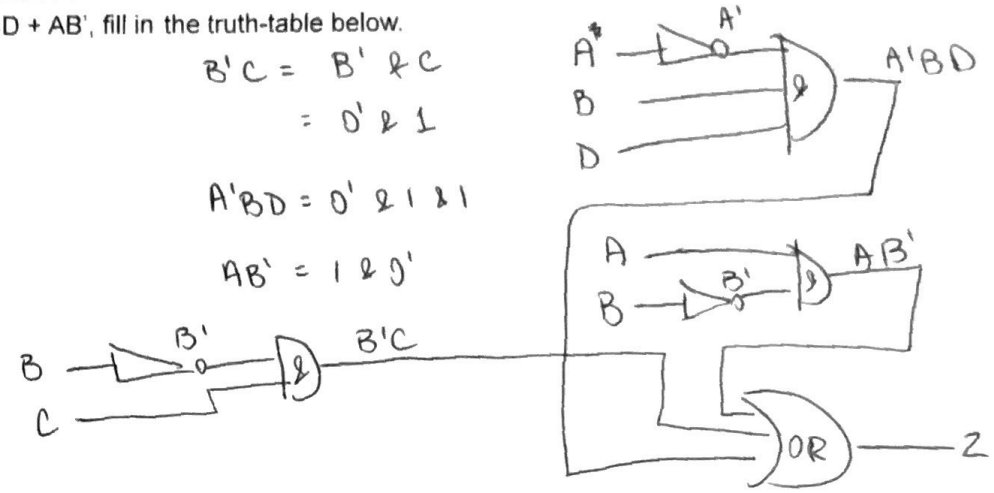
A	B	C	D	Z
0	0	0	0	0
0	0	0	1	0
0	0	1	0	1
0	0	1	1	1
0	1	0	0	0
0	1	0	1	1
0	1	1	0	0
0	1	1	1	1
1	0	0	0	1
1	0	0	1	1
1	0	1	0	1
1	0	1	1	1
1	1	0	0	0
1	1	0	1	0
1	1	1	0	0
1	1	1	1	0

B'C = B' & C

= 0' & 1

A'BD = 0' & 1 & 1

AB' = 1 & 0'



b) Given the truth table of part (a), implement Z using a single 16:1 multiplexer shown below. Make sure to clearly label all inputs and outputs.

(4 selectors)

in — conditional switch — out