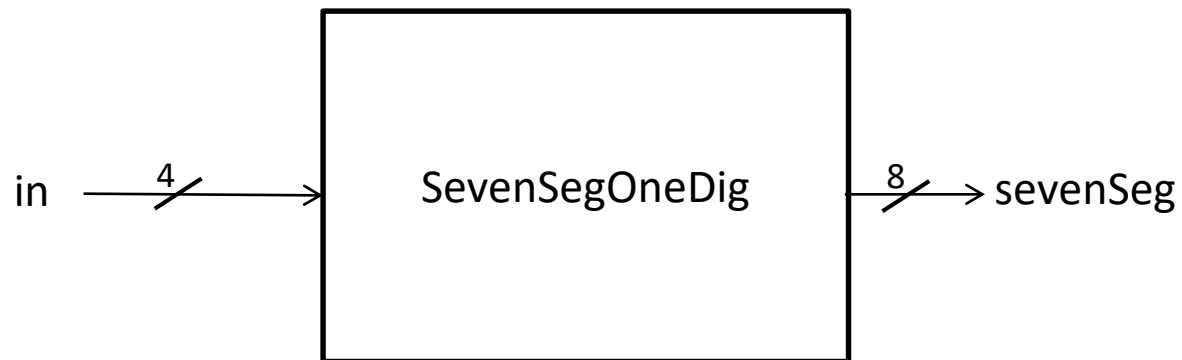# One Digit
Seven Segment Display

Design Description:

- This design is a driver circuit for one digit seven segments display.

- It converts BCD number to the number which is proper for seven segments displays.

ÖZYEĞİN
ÜNİVERSİTESİ

Design I/O:

in: 4 bit hex. input

sevenSeg: 8 bit output for seven segments display

in   →⁴→ | SevenSegOneDig | →⁸→ sevenSeg

Design Behavior:

- It is full combinational circuit. Its truth table is below. Take BCD inputs as
  in and segment outputs as sevenSeg

BCD inputs				segment outputs								display
D	C	B	A	a	b	c	d	e	f	g	db	
0	0	0	0	0	0	0	0	0	0	1	0	0.
0	0	0	1	1	0	0	1	1	1	1	0	1.
0	0	1	0	0	0	1	0	0	1	0	0	2.
0	0	1	1	0	0	0	0	1	1	0	0	3.
0	1	0	0	1	0	0	1	1	0	0	0	4.
0	1	0	1	0	1	0	0	1	0	0	0	5.
0	1	1	0	1	1	0	0	0	0	0	0	6.
0	1	1	1	0	0	0	1	1	1	1	0	7.
1	0	0	0	0	0	0	0	0	0	0	0	8.
1	0	0	1	0	0	0	0	1	0	0	0	9.
1	0	1	0	0	0	0	1	0	0	0	0	A.
1	0	1	1	1	1	0	0	0	0	0	0	b.
1	1	0	0	0	1	1	0	0	0	1	0	C.
1	1	0	1	1	0	0	0	0	1	0	0	d.
1	1	1	0	0	1	1	0	0	0	0	0	E.
1	1	1	1	0	1	1	1	0	0	0	0	F.