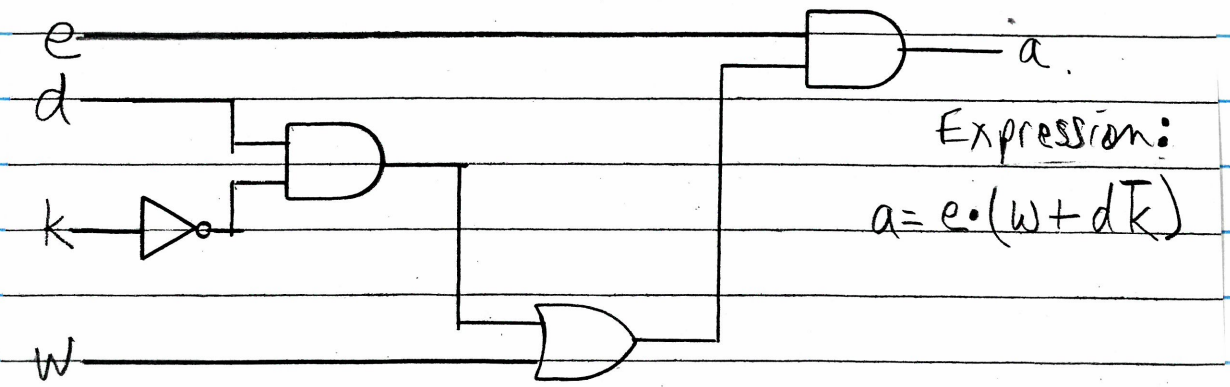
EECS 140/141 HW1 S20

1. Email
2. See syllabus
3. Prime Implicant
4. a) $10(0.85^4) + 12(0.65) + 20(0.88) + 18(65/75) + 18(85/100) + 24(88/120)$
   $= 82.4$ b). This lies between 80 and 83 → B⁻
5. Not guaranteed! See syllabus.
6-11. See syllabus
12. e: 1 if alarm enabled, 0 else
    d: 1 if door open, 0 else
    k: 1 if key inserted, 0 else
    w: 1 if window open, 0 else
    a: 1 if alarm sounds, 0 else
    Note: many possible truth tables, depending on order of variables and how values are assigned

e	d	k	w	a
0	0	0	0	0
0	0	0	1	0
0	0	1	0	0
0	0	1	1	0
0	1	0	0	0
0	1	0	1	0
0	1	1	0	0
0	1	1	1	0
1	0	0	0	0
1	0	0	1	1
1	0	1	0	0
1	0	1	1	1
1	1	0	0	1
1	1	0	1	1
1	1	1	0	0
1	1	1	1	1

13.