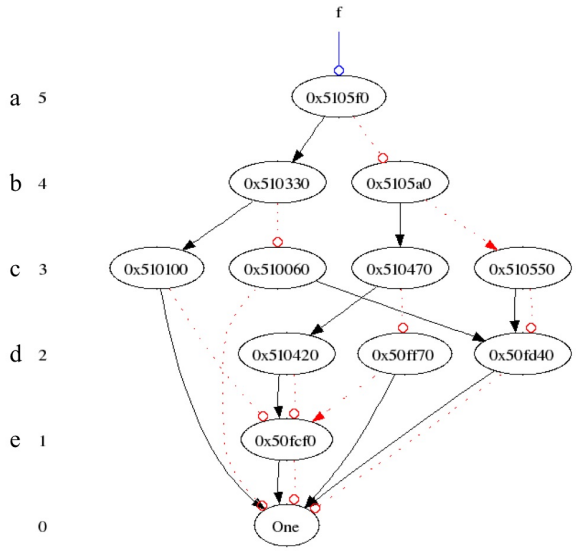
2. Given the following BDD *f* ---



(a) What are the values of *f* for (a, b, c, d, e) = (0, 0, 1, 1, 0), (1, 0, 1, 0, 1), and (1, 1, 0, 0, 0) ?

(b) List all the cubes for "*f* = 0" in terms of input variables { a, b, c, d, e } (e.g. "10xxx"). Please list the cubes in ascending order (e.g. 00000, 00001, 0000x)

(c) Covert this BDD *f* to a BDD without complemented edges. Just draw the BDD nodes with input labels { a, b, c, d, e }, not the pointer addresses (e.g. 0x5105f0), and you can ignore the edges to constant '0', such as the BDDs in p18, lecture note #3.

(a) $f(0,0,1,1,0) = 1$ $f(1,0,1,0,1) = 0$

$f(1,1,0,0,0) = 0$

(b)

0 0 0 0 X	1
0 0 0 1 X	0
0 0 1 0 X	0
0 0 1 1 X	1
0 1 0 0 0	1
0 1 0 0 1	0
0 1 0 1 X	0
0 1 1 0 0	1
0 1 1 0 1	0
0 1 1 1 0	0
0 1 1 1 1	1
1 0 0 X X	0
1 0 1 0 X	0
1 0 1 1 X	1
1 1 0 X 0	0
1 1 0 X 1	1
1 1 1 X X	0

⇒

0 0 0 1 0
0 0 0 1 1
0 0 1 0 0
0 0 1 0 1
0 1 0 0 1
0 1 0 1 0
0 1 0 1 1
0 1 1 0 1
0 1 1 1 0
1 0 0 0 0
1 0 0 0 1
1 0 0 1 0
1 0 0 1 1
1 0 1 0 0
1 0 1 0 1
1 1 0 0 0
1 1 0 1 0
1 1 1 0 0
1 1 1 0 1
1 1 1 1 1

$f(a,b,c,d,e) = 0$

(c)