HW: Solve the problem of the independent switches for **n = 4**, which means: 1) Truth table

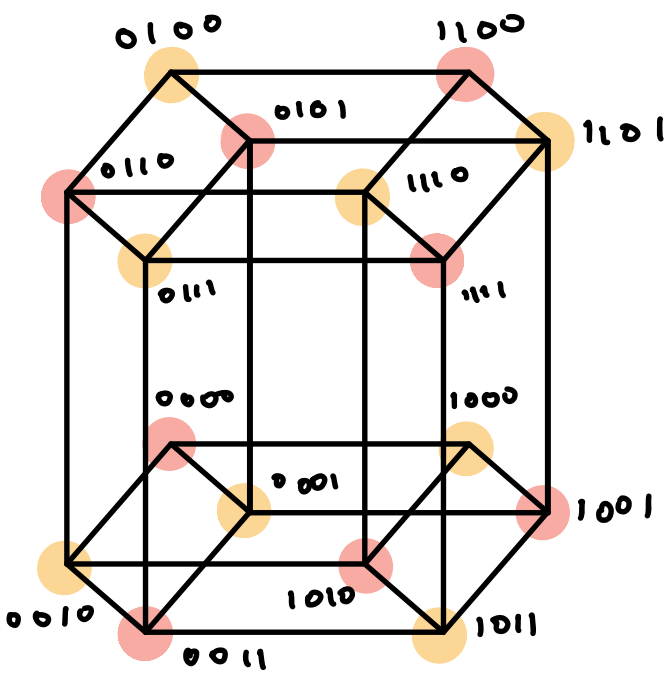
2) Draw the 4-D cube

$n = 4$

Truth Table

x_1	x_2	x_3	x_4	f_1	f_2
0	0	0	0	0	1
0	0	0	1	1	0
0	0	1	0	1	0
0	0	1	1	0	1
0	1	0	0	1	0
0	1	0	1	0	1
0	1	1	0	0	1
0	1	1	1	1	0
1	0	0	0	1	0
1	0	0	1	0	1
1	0	1	0	0	1
1	0	1	1	1	0
1	1	0	0	0	1
1	1	0	1	1	0
1	1	1	0	1	0
1	1	1	1	0	1

4-D cube



HW: Write all axioms and properties for the B. algebra of sets:

S = set, $S \neq \varnothing$

$(P(S), \cup, \cap, \ell; \varnothing, S)$.

Set of all subsets of S

[Remember: if S has n elements then P(S) has 2^n]

S = set

$S \neq \emptyset$

$(P(S), \cup, \cap, \ell; \emptyset, S)$

if S has n elements then P(S) has 2^n

Answer: $(B, +, \cdot, '; 0, 1)$: