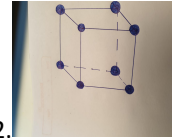


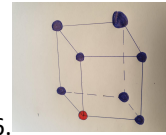
Case 1: $k = 0$ and $k = 8$. Total number of functions = $\binom{8}{0} + \binom{8}{8} = 2 * \binom{8}{0} = 2 * 1 = 2$.

All functions are linearly separable.

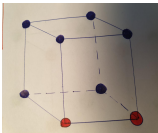


Case 2: $k = 1$ and $k = 7$. Total number of functions = $\binom{8}{1} + \binom{8}{7} = 2 * \binom{8}{1} = 2 * 8 = 16$.

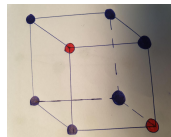
All functions are linearly separable.



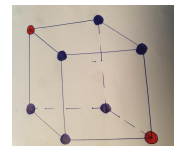
Case 3: $k = 2$ and $k = 6$. Total number of functions = $\binom{8}{2} + \binom{8}{6} = 2 * \binom{8}{2} = 2 * 28 = 56$.



A) 24 linearly separable
 $12(k=2) + 12(k=6)$

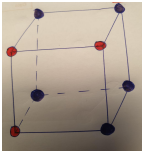


B) 24 not linearly separable
 $12(k=2) + 12(k=6)$

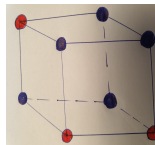


C) 8 not linearly separable
 $4(k=2) + 4(k=6)$

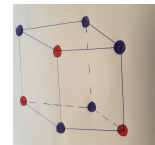
Case 4: $k = 3$ and $k = 5$. Total number of functions = $\binom{8}{3} + \binom{8}{5} = 2 * \binom{8}{3} = 2 * 56 = 112$.



A) 48 linearly separable
 $\binom{4}{3} * 6 + \binom{4}{3} * 6 = 24(k=3) + 24(k=5)$

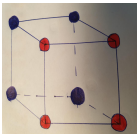


B) 48 not linearly separable
 $2 * 12 + 2 * 12 = 24(k=3) + 24(k=5)$

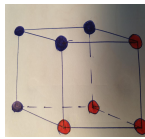


C) 16 not linearly separable
 $2 * 4 + 2 * 4 = 8(k=3) + 8(k=5)$

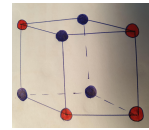
Case 5: $k = 4$. Total number of functions = $\binom{8}{4} = 70$



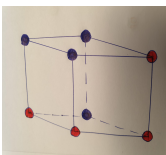
A) 6 linearly separable



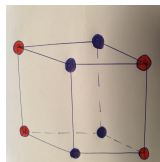
B) 8 linearly separable



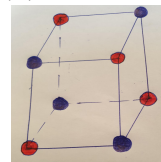
C) $\binom{4}{3} * 6 = 24$ not linearly separable



D) 24 not linearly separable



E) 4 not linearly separable



F) 4 not linearly separable

Total $2 + 16 + 56 + 112 + 70 = 256$ functions out of which $2 + 16 + 24 + 48 + 6 + 8 = 104$ are linearly separable.