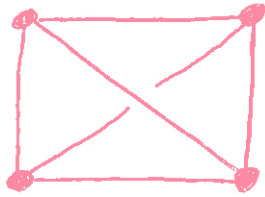


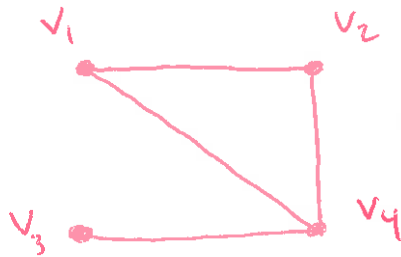
Key

[2] 1.) Draw K_4 (hint: K_4 is the complete graph on 4 vertices).



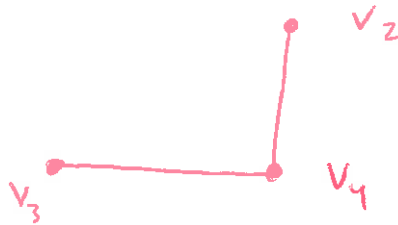
[2] 2a.) Draw the graph, G , whose adjacency matrix is

$$\begin{matrix} & v_1 & v_2 & v_3 & v_4 \\ \begin{matrix} v_1 \\ v_2 \\ v_3 \\ v_4 \end{matrix} & \begin{pmatrix} 0 & 1 & 0 & 1 \\ 1 & 0 & 0 & 1 \\ 0 & 0 & 0 & 1 \\ 1 & 1 & 1 & 0 \end{pmatrix} \end{matrix}$$



[2] 2b.) Let v_i be the vertex corresponding to the i th column in the adjacency matrix in problem 2a. Recall that $G' = G - v_1$ is the subgraph of $G = (V, E)$ induced by the vertices $V - \{v_1\} = \{v_2, v_3, v_4\}$. Draw the subgraph $G' = G - v_1$.

Just remove v_1 and all its edges.



[2] 2c.) What is the adjacency matrix for the graph $G' = G - v_1$?

Notice this is the submatrix induced by taking the matrix in part 2a and deleting the 1st row and 1st column:

	v_2	v_3	v_4
v_2	0	0	1
v_3	0	0	1
v_4	1	1	0