EE 360C - ALGORITHMS
The University of Texas at Austin

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An undirected graph is connected if each pair of vertices is connected by a path. Prove that the following two statements are equivalent:

1. An undirected graph $G = (V, E)$ is disconnected
2. The vertices of the undirected graph $G = (V, E)$ can be partitioned into two sets V_1, V_2 such that there are no edges between any member of V_1 and any member of V_2. A partition means that $V_1 \cup V_2 = V$ and $V_1 \cap V_2 = \emptyset$.