Fifth Quiz for CSI35
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Directions: This quiz is due Thursday November 20, at 2:00 PM. Please make sure to *justify* all your answers. **No credit will be given for unjustified answers.**

1. Prove that in every graph there are at least two vertices with the same degree.

2. For each of the graphs K_n, L_n, C_n, W_n, and Q_n:

   (a) find a formula for the number of edges of the graph.

   (b) Determine whether the graph is bipartite

3. A graph G has six vertices with the following degrees: $5, 3, 3, 2, 4, 1$.

   (a) How many edges does G have?

   (b) Draw two different such graphs.