Quiz 4 Solutions

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This quiz does not count towards your grade. It exists to simply gauge your understanding. Treat this as though it were a portion of your midterm or final exam. "Intuition Practice" might be tricky; watch out for subtleties. "Proofs" will be challenging to start; develop an arsenal of *approaches* to starting a problem.

1. Prove that an undirected, connected graph with $|V|$ edges must contain a cycle.

2. Let a vertex with 0 in-degree and non-zero out-degree be a source. Let a vertex with 0 out-degree and non-zero in-degree be a source. Prove that any graph with an Eulerian tour cannot contain a source or a sink.