The Theory of Computation

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Solution Manual
Chapter 2, Problem 2.18

By definition, a strongly connected graph has a (directed) path between any pair of vertices. If our graph has n vertices, call them $\{v_1, v_2, \ldots, v_n\}$, then in particular, we have a directed path from v_1 to v_2, from v_2 to v_3, and so on, going to a directed path from v_{n-1} to v_n, and finally one from v_n to v_1. Concatenating all of these paths yields a directed cycle from v_1 back to itself that passes through all vertices of the graph (although, more than likely, more than once through many of them).