This miniproject asks you to investigate connectedness in directed graphs.

Find an example of a directed graph whose underlying undirected graph is K_4 such that each of the properties hold, if possible. Note: K_4 has no multiple edges or loops, and each pair of vertices is connected to each other directly.

(a) The graph is strongly connected.

(b) The graph is strongly connected but is fundamentally different from the graph you gave in part (a).

(c) The graph is weakly connected but has a 3-vertex component that is strongly connected.

(d) The graph is weakly connected by has two 2-vertex components that are strongly connected.

(e) The graph is weakly connected and there are no strongly connected components.