By Anando Zaman

Exercise 4.2.1:: What is the maximum number of edges in a digraph with V vertices and no parallel edges? What is the minimum number of edges in a digraph with V vertices, none of which are isolated?

Solution:

Recall for undirected graph with V vertices, there are $\frac{V(V-1)}{2}$ edges. So 1 edge for both directions per node.

For digraph, we have two edges, 1 for each direction. Therefore, there are $\frac{V(V-1)}{2} * 2 \equiv V(V-1)$ edges.

So $V(V-1)$ max edges while min edge is 1