Appendix 2 Glossary

The following definitions are taken from:

unless otherwise noted.

- **Weakly Connected**
  - A directed graph is said to be *weakly connected* if its underlying undirected graph is *connected*.

- **Connected**
  - An undirected graph is said to be *connected* if there exists a walk between every pair of its vertices.

- **Mutually Reachable**
  - "Let \( u \) and \( v \) be vertices in a digraph \( G \). Then \( u \) and \( v \) are said to be *mutually reachable* in \( G \) if \( G \) contains both a directed \( u \)-\( v \)-walk and a directed \( v \)-\( u \)-walk. Every vertex is regarded as reachable from itself (by the trivial walk)."

- **Strongly Connected**
  - A digraph is *strongly connected* if every two vertices are *mutually reachable*.

- **Strong Component**
  - "A *strong component* of a digraph \( G \) is a maximal strongly connected subgraph of \( G \). Equivalently, a *strong component* is a subdigraph induced on a maximal set of *mutually reachable* vertices.

- **Component**
  - "The subgraphs of \( G \) which are maximal with respect to the property of being *connected* are called the components of \( G \)."

- **Graph Density**
  - "The density of a graph is the ratio of the number of edges and the number of possible edges." (from igraph library documentation).