Definition (Path)

Let $\mathcal{G}$ be a graph. A *path* in $\mathcal{G}$ is a sequence of arrows such that the target of one arrow is the source of the next. The *length* of a path is the number of arrows in the sequence. We also formally allow for sequences made up of "zero-many" arrows (such paths therefore have length zero). We call such paths *trivial* or *empty*. If paths describe a journey, then trivial paths correspond to "not going anywhere". The notions of source and target for arrows extend, in an obvious manner, to paths. For trivial paths, the source and target always coincide.