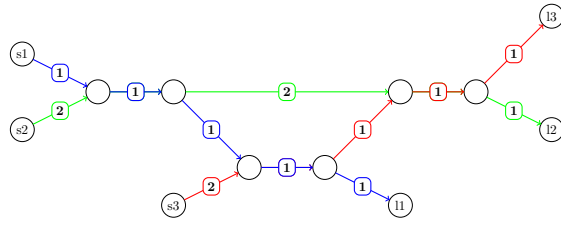


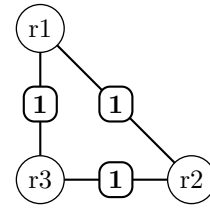
A **conflict graph** represents the collision between the routes of a routed network N . The vertices of a conflict graph $G = (V, E)$ are the routes of N , and there is an edge between two vertices if and only if there is a common arc between the two routes in the matched graph.

Given u and v two vertices of the conflict graph, corresponding to two routes colliding in the matched graph. The weight of an edge, $w(u, v)$, is the absolute value of the difference between the distance of the two routes between their respective source node and the collision point.

A labeling F of such a graph is an affectation of an integer to each vertex, such that for each vertex u , $f(u) \neq f(v) + w(u, v) \pmod{P}$, where v are the neighbors of u in the conflict graph and P our period.



$$\lambda(v, r_i) - \lambda(v, r_j) = 1$$



Conflict graph