

**VF2** algorithm is implemented by the class VF2SubgraphIsomorphismInspector in JGraphT.

The process finds a mapping between the two graphs  $G_1$  and  $G_2$  determines the isomorphism mapping  $M$ , which associates vertices  $G_1$  with vertices of  $G_2$  and vice versa. It can be described by means of a state space representation which is created by the algorithm while exploring the search graph in depth-first fashion. Each state  $s$  of the matching process can be associated with a partial mapping  $M(s)$ . At each level, the algorithm computes the set of the vertex pairs that are candidates to be added to the current state  $s$ . If a pair of vertices  $(v, w)$  is feasible, the mapping is extended and the associated successor state  $s'$  is computed. The whole procedure is then repeated for state  $s'$ .