

Couple-exchange and Point-exchange

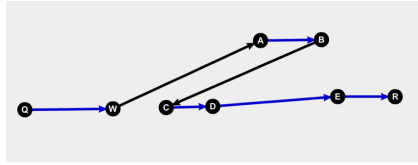


Fig. 1. Initial route, the black edges will be changed. An edge (A,B) is randomly chosen, where A is source and B is destination of an order.

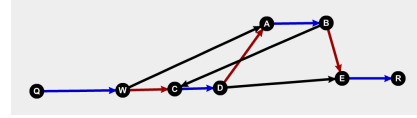


Fig. 2. When the optimal pair is found, (C, D) in this case, the orders of pair is changed.

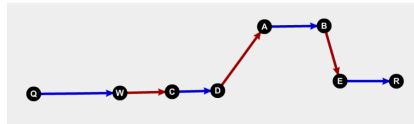


Fig. 3. The black edges are deleted.