5 Data Structure of Algorithm

This section describes the main data structures used by the algorithms. The below information of node is used by our proposed algorithm. All other data structures are like to the data structure of [4] because we are using k-way partitioning.

5.1 Node Data Structure

1. A list for the incoming edges of the node.
2. The partition to which the node currently belongs.
3. A flag for indicating that whether the node is unlocked or locked.
4. If the node is unlocked, a bucket array which points (k-1) move gains associated with each of the (k-1) move directions.
5. If the node is unlocked, the gain values of node associated with (k-1) move directions.
6. A visited array to determine whether a node has been visited before or not.
7. A path array to store all nodes of the path between input and output nodes of partition.