Group: 2207007, 2207008, 2207009

Randomized Min Cut Algorithm:

This is an implementation of Randomized Min-Cut algorithm for calculating the minimum number of edges whose removal results in a graph disjoint into two. Here the graph is stored as a list of edges. A disjoint Set Union (also known as a Union-Find) is used to keep track of merged vertices. The algorithm follows the given steps:

1. Starts by picking a random edge.
2. Reduce it to a vertex (supernode) by adding its two endpoints (u, v) to one of the sets of vertices, thus reducing the count of vertices
3. Continue until there is only two vertex (supernode) left. Then it counts the edges that connect the two left vertices, which corresponds to the cut.

This is a randomized algorithm. So the number of executions of it may give a different number for the minimum cut, and it is very probable that this minimum number is the real minimum-cut.