Report1

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I have added several functions in lab2.py. This document is intending to specify what these functions do.

- def _update_mrf_w_evidence(all_nodes, evidence, edges, factors):
  construct evident factors. Also remove nodes and edges which has been observed.
- def _get_jt_clique_and_edges(nodes, edges):

In this function, first we generate the graph, then add the edges and nodes to the graph. Finally use the function nx.find_cliques(G) to get the cliques list. Then from elements of the cliques list, we find if there are common nodes between elements, and use it as weight. Construct max spanning trees. From the max spanning tree we form jt_edges.

- def _get_clique_factors(jt_cliques, factors):

In this function, we use factor_product() function to calculate the clique factors result.

- def _get_clique_potentials (jt_cliques, jt_edges, jt_clique_factors):

Use sum-product algorithm which was written in lab1 to construct this function. Function Collect, Distribute, SendMessages and compute marginals all add to it.

- def _get_node_marginal_probabilities(query_nodes, cliques, clique_potentials):

Find a node's minimal clique and compute the node probability.