1. (5 points). The diagram below shows a leftist heap that might be formed during the running of the round robin algorithm. Keys and ranks have been omitted. Nodes labeled with dashes (−) are dummy nodes introduced by lazy melds. For other nodes, the labels represent an edge in the graph (for example be denotes the edge {b, e}). Assume that the tree corresponding to this heap includes the vertices a, c, d, f, h, and j. Draw an X through all nodes that are considered “deleted” by the round robin algorithm. Suppose a findmin operation is done on this heap. Draw a closed curve around each of the subtrees that are returned by the resulting call to the purge method.
2. (5 points) In Edmond’s algorithm, suppose that vertices $a, c, f, g, h, i$ and $k$ form a blossom. Suppose that edges $\{a, f\}, \{c, h\}, \{i, k\}$, are in the matching. Which vertex is the base of the blossom?

Suppose that the base of the blossom has a parent in the tree. Is the edge to the parent in the matching or not?

Suppose $\{h, k\}$ is the bridge of the blossom and the parent of $c$ in the tree is $a$. List all the even vertices in the blossom, at the moment just before the blossom was formed (suggestion: draw a picture of the blossom).

Suppose that after the blossom is formed, we process the edge $\{i, d\}$ where $d$ is in a different tree, yielding an augmenting path. When the augmenting path is flipped, which of the matching edges in the blossom is removed from the matching.