1. (5 points). This problem concerns Dinic’s algorithm for the maximum flow problem. Suppose that at the start of some phase, a top level call to findpath examines 25 edges and returns an augmenting path with 10 edges, how many times are nextedge pointers advanced during this execution of findpath (including all recursive calls)?

If the next call to findpath succeeds, what is the length of the path that is returned?

Suppose that the flow graph has 50 edges, what is the largest possible number of additional top level calls to findpath in the current phase (that is, after the first two)?
2. (5 points) The diagram below shows an intermediate state in the execution of the preflow-push algorithm. Show the state after the vertices in the queue have all been processed, using the second diagram below. Remember to show the updated nextedge pointers.

queue: a, b, e
queue: __________