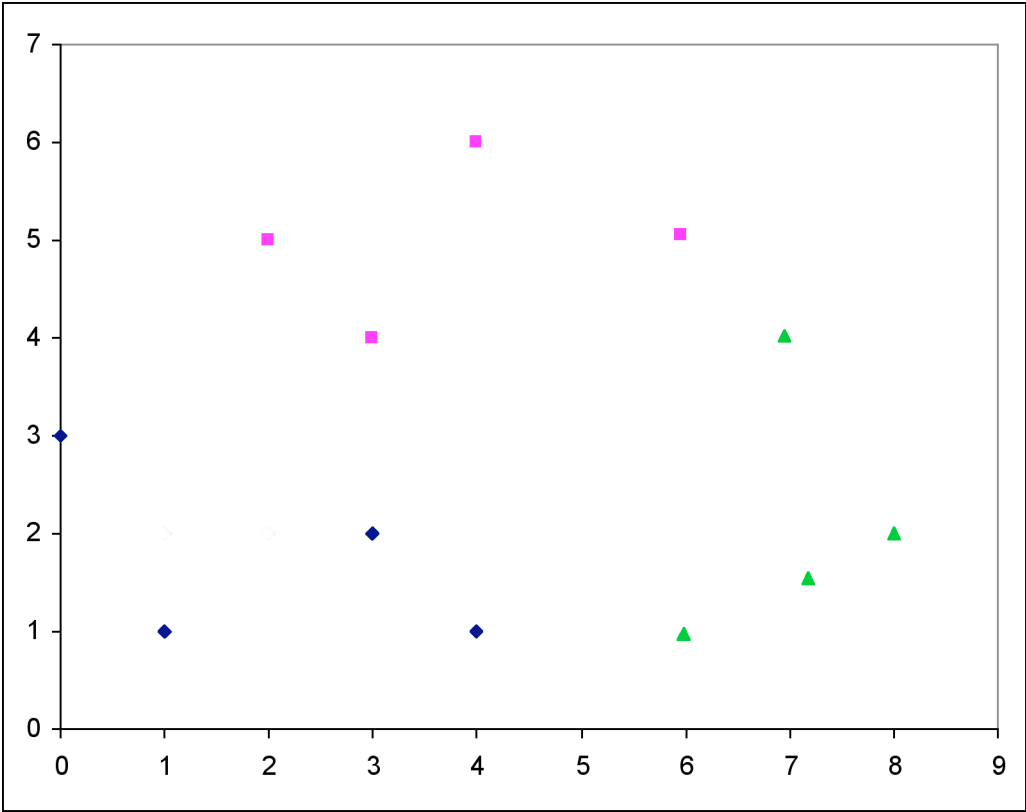
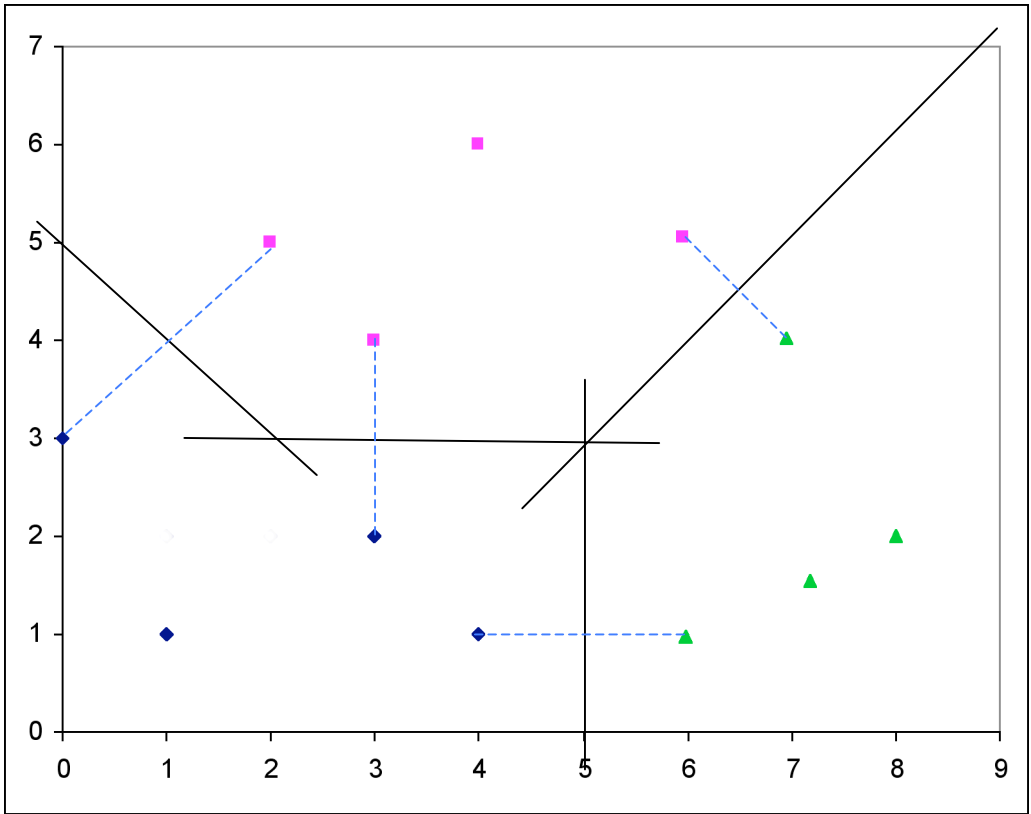


6.034 Recitation October 23: Nearest Neighbors, Drawing decision boundaries
Bob Berwick

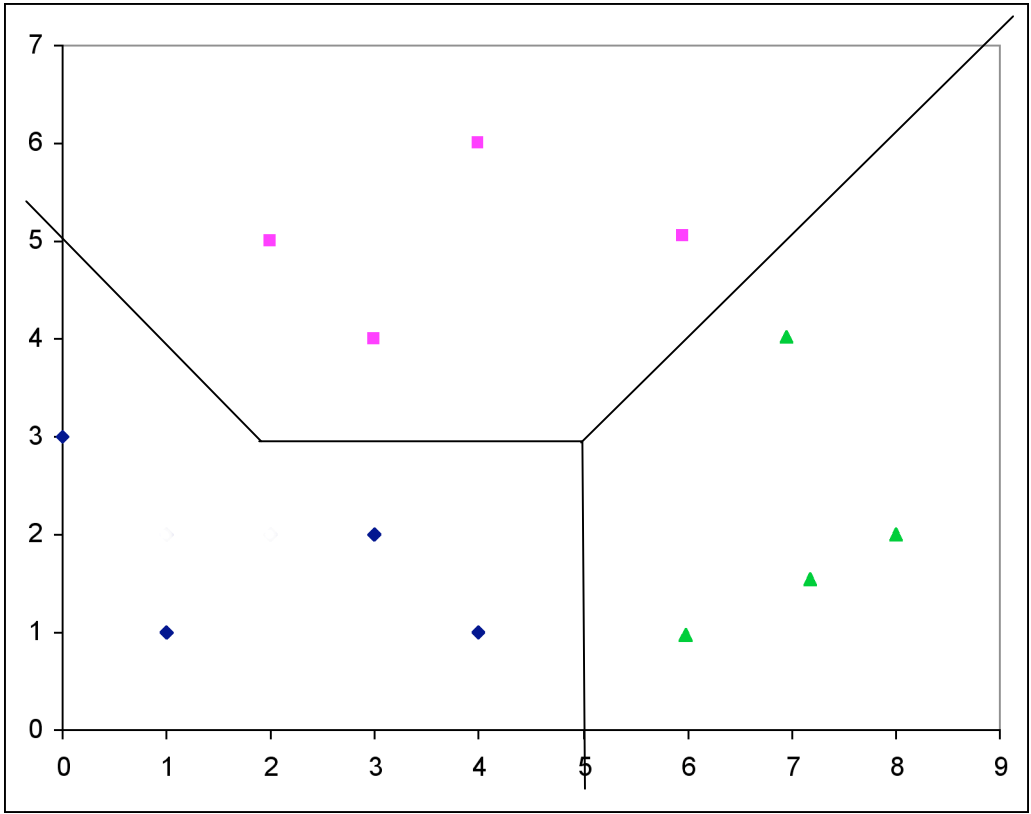
Boundary lines are formed by the intersection of perpendicular bisectors of every pair of points. Using pairs of closest points in different classes gives a good enough approximation. (To be absolutely sure about the boundaries, one would draw perpendicular bisectors between each pair of neighboring points to create a region for each point, then consolidate regions belonging to the same class, i.e., remove the boundaries separating points in the same class. This technique is unnecessary for our purposes.)





Construct lines between closest pairs of points in different classes.

Draw perpendicular bisectors.



End bisectors at intersections; extend beyond axes (to infinity).