1. The diameter of an unweighted graph is the maximum distance between any pair of nodes. Give a tester for graphs with degree at most \( d \) (where \( d \) is a constant and the graph is represented in the adjacency list model) that have low diameter. The tester should have the following specific behavior:

   (a) Graphs with diameter at most \( D \) are always accepted.

   (b) Graphs which are \( \epsilon \)-far (that is, at least \( \epsilon dn \) edges must be added) from having diameter \( 4D + 2 \) are failed with probability at least \( 2/3 \).

   (c) The query complexity of the tester should be polynomial in \( D, d, 1/\epsilon \).