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ON TWO CONJECTURES REGARDING AN INVERSE EIGENVALUE PROBLEM FOR ACYCLIC SYMMETRIC MATRICES*

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Abstract. For a given acyclic graph G, an important problem is to characterize all of the eigenvalues over all symmetric matrices with graph G. Of particular interest is the connection between this standard inverse eigenvalue problem and describing all the possible associated ordered multiplicity lists, along with determining the minimum number of distinct eigenvalues for a symmetric matrix with graph G. In this note two important open questions along these lines are resolved, both in the negative.

Key words. Symmetric matrices, Acyclic matrices, Eigenvalues, Graphs, Binary trees.

AMS subject classifications. 15A18, 15A48, 05C50.

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