MATH 2360-012 WEEK 15

SECTION 7.3; PAGES 368–377

Abstract. A symmetric matrix is one that is its own transpose. An $n \times n$ symmetric matric A is always diagonalizable, and one can even find an orthonormal basis for $\mathbb{R}^n$ consisting of of eigenvectors for A.

Section 7.3

Reading. Make sure that you understand the following:

(1) What symmetric and orthogonal matrices are.
(2) That eigenvectors corresponding to different eigenvalues for a symmetric matrix are not only linearly idenpendent but orthogonal.
(3) How to perform an orthogonal diagonalization of a symmetric matrix.

Suggested problems. To verify that you have understood the material, solve the following problems at the end of the section: 3, 13, 27, 41, and 47.

Date: November 25, 2020.