Reading Questions 15

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- 1. A pattern is a matrix.
- 2. The diagonal entries of a square matrix is a pattern.
- 3. Compute 5!.

Section 6.1 Introduction to determinants (Part 2)

Determinants and Patterns

P 1. Compute the determinant for the follow matrices by using their patterns.

$$A = \begin{bmatrix} 0 & 1 & 1 \\ 3 & 2 & 1 \\ 1 & 0 & 1 \end{bmatrix} \quad B = \begin{bmatrix} 3 & 2 & 1 \\ 0 & 1 & 1 \\ 1 & 0 & 1 \end{bmatrix} \quad C = \begin{bmatrix} 0 & 2 & 2 \\ 3 & 2 & 1 \\ 1 & 0 & 1 \end{bmatrix} \quad D = \begin{bmatrix} 0 & 1 & 1 \\ 3 & 2 & 1 \\ 1 & 1 & 2 \end{bmatrix}$$

P 2. Compute the determinant for the matrix M.

$$M = \begin{bmatrix} 0 & 0 & 1 & 0 & 2 \\ 5 & 4 & 3 & 2 & 1 \\ 1 & 3 & 5 & 0 & 7 \\ 2 & 0 & 4 & 0 & 6 \\ 0 & 0 & 3 & 0 & 4 \end{bmatrix}$$

P 3. Find det(A²) for $A = \begin{bmatrix} 1 & 81 & 80 & 88 \\ 0 & 2 & 86 & 84 \\ 0 & 0 & 3 & 87 \\ 0 & 0 & 0 & 4 \end{bmatrix}$