MiniLab-7

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803400815021 Machine Learning with Python

Example- 1

Do the matrix multiplication below with Numpy.

$$A = \begin{bmatrix} 2 & 5 & 14 \\ 7 & 9 & 12 \\ 8 & 2 & 6 \end{bmatrix} \qquad B = \begin{bmatrix} 47 \\ 3 \\ 11 \end{bmatrix} \qquad AB = ?$$

Example - 2

Compute the sinus of 10 angle values between 0 and 2π using Numpy.

Example - 3

Find the elements of the matrix below which are greater than 5.

$$A = \begin{bmatrix} 2 & 5 & 14 \\ 7 & 9 & 12 \\ 8 & 2 & 6 \end{bmatrix}$$

Example - 4

Compute the following equation with Numpy.

$$A = \begin{bmatrix} 1 & 5 & 9 \\ 4 & 3 & 2 \\ 0 & 2 & 7 \end{bmatrix} \quad b = \begin{bmatrix} 6 \\ 1 \\ 8 \end{bmatrix} \quad c = \begin{bmatrix} 3 \\ 2 \\ 9 \end{bmatrix}$$

$$0.06A^T A - bc^T = ?$$

Example - 5

Construct the E matrix using the matrices/vectors a, b, c and d.

$$a = \begin{bmatrix} 1 & 5 & 9 \\ 4 & 3 & 2 \\ 0 & 2 & 7 \end{bmatrix} \quad b = \begin{bmatrix} 5 \\ 3 \\ 4 \end{bmatrix} \quad c = \begin{bmatrix} 4 & 5 \\ 6 & 9 \end{bmatrix} \quad d = \begin{bmatrix} 2 \\ 1 \end{bmatrix} \quad E = \begin{bmatrix} a & a & a & b & b & b \\ a & a & a & c & c & d \\ a & a & a & c & c & d \end{bmatrix}$$