

# Lab 1 Tutorial Task C

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$$\text{tut1} * \text{tut2}$$

$$\text{tut2} * \text{tut1}$$

$$\rightarrow \begin{bmatrix} 1 & 0 & 5 & 9 & 36 \\ 4 & 12 & 36 & 56 & 0 \\ 3 & 9 & 0 & 12 & 24 \end{bmatrix}$$

↑  
"component-wise multiplication

$$\text{tut1} / \text{tut2}$$

$$\text{tut2} / \text{tut1}$$

↑  
"componentwise division

$$\text{tut1} .^2$$

"component-wise exponentiation

$$\rightarrow \begin{bmatrix} 1 & 0 & 5 & 1 & 2.25 \\ 1 & 1.333 & 1 & 1.143 & 0 \\ 3 & 0.111 & 0 & 0.750 & 2.667 \end{bmatrix}$$

$$\rightarrow \begin{bmatrix} 1 & \infty & 0.2 & 1.0 & 0.44 \\ 1 & 0.75 & 1.0 & 0.875 & \infty \\ 0.33 & 9.0 & \infty & 1.33 & 0.375 \end{bmatrix}$$

$$\rightarrow \begin{bmatrix} 1 & 0 & 25 & 9 & 81 \\ 4 & 16 & 36 & 64 & 0 \\ 9 & 1 & 0 & 9 & 64 \end{bmatrix}$$

## Task D

1)

$$\text{tut1} * \text{tut2}$$

$$\text{tut2} * \text{tut1}$$

→ Returned error message

$$\text{tut1} * \text{tut2}' \rightarrow \begin{bmatrix} 50 & 80 & 60 \\ 40 & 108 & 90 \\ 46 & 54 & 48 \end{bmatrix}$$

$$\text{tut2}' * \text{tut1} \rightarrow \begin{bmatrix} 8 & 9 & 17 & 22 & 17 \\ 35 & 21 & 28 & 57 & 90 \\ 28 & 28 & 41 & 63 & 41 \end{bmatrix}$$

2)

$$\text{tut1} .^2$$

→ Returns error message

$$(\text{tut2}' * \text{tut1}) .^2$$

Multiplies the transpose of tut2 by tut1 before component-wise exponentiation