

Design a neural network to approximate the continuous function,

$$f(x_1, x_2, x_3, x_4, x_5, x_6) = \begin{pmatrix} x_1 \ln x_2 + x_2 \ln x_3 \\ x_3 \ln x_4 + x_4 \ln x_5 \\ x_5 \ln x_6 + x_6 \ln x_1 \end{pmatrix}$$

defined on the region  $[1, 5]^6$ .