PROBLEM 1: (20 points) Consider the function
\[ f(x, y) = e^{x^2} y \]
Take \( x \in [-10, 10] \) and \( y \in [-10, 10] \). Create input-output data by solving this function for random \((x, y)\) values, and then train a neural network using this data. After training, test the neural network by comparing its performance with this function.

You can use any software tool for this project, such Matlab, Scilab, any C compiler, and any neural network library. However, please document your solution steps in your report with code details.