An additional task. Linear Regression

Let the joint density of a random vector be given by the function $c(x + y^2)$ on the region $[0, 1]^2$ restricted by the line $x + y < 1$.
Construct the theoretical conditional expectation and approximate it by the regression line (optimal in the sense of the sum of squared deviations).

Then simulate $50, 100, \ldots$ points (x, y) satisfying this distribution, and, having computed the OLS estimates, plot the regression line.