Homework 04: Levenberg-Marquardt Algorithm

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1.Test function

Function: f(x, y) = sin(xy) + cos(xy).

First-Order-Gradient:

f'(x, y) = [ycos(xy) - ysin(xy), xcos(xy) - xsin(xy)]

Second-Order-Gradient

f''(x, y) =

[-y^2sin(xy)-y^2cos(xy),

cos(xy)-xysin(xy)-sin(xy)-xycos(xy),

cos(xy)-xysin(xy)-sin(xy)-xycos(xy),

-x^2sin(xy)-x^2cos(xy)]

2.Plot the iteration steps