Assignment: Gradient Descent - Base Code 1

The objective is to implement the gradient descent to find the minam of a function

Implement standard gradient descent code on Matlab or Python.
You must be able to set:
learning rate (lamda)
starting point (Wstart)
maximum number of steps (Nmax), termination tolerance (toler)
any 2D cost/loss function (use w1 and w2)

Hints
You can (and must!) explicitly define the derivative of your function
Make sure you do the correct initialization of all parameters!

Outputs are
Report the used lamda,
The optimized solution (w1, w2, Fmin(w1, w2)), and the number of steps Nopt
a 2D plot with the trajectory of the solution!
Apply your algorithm for the function
w1.^2 +1*w1.*w2 + 2*w.^2
Test your code for different lamda; start from 0.1 and try different values till your gradient descent fails!