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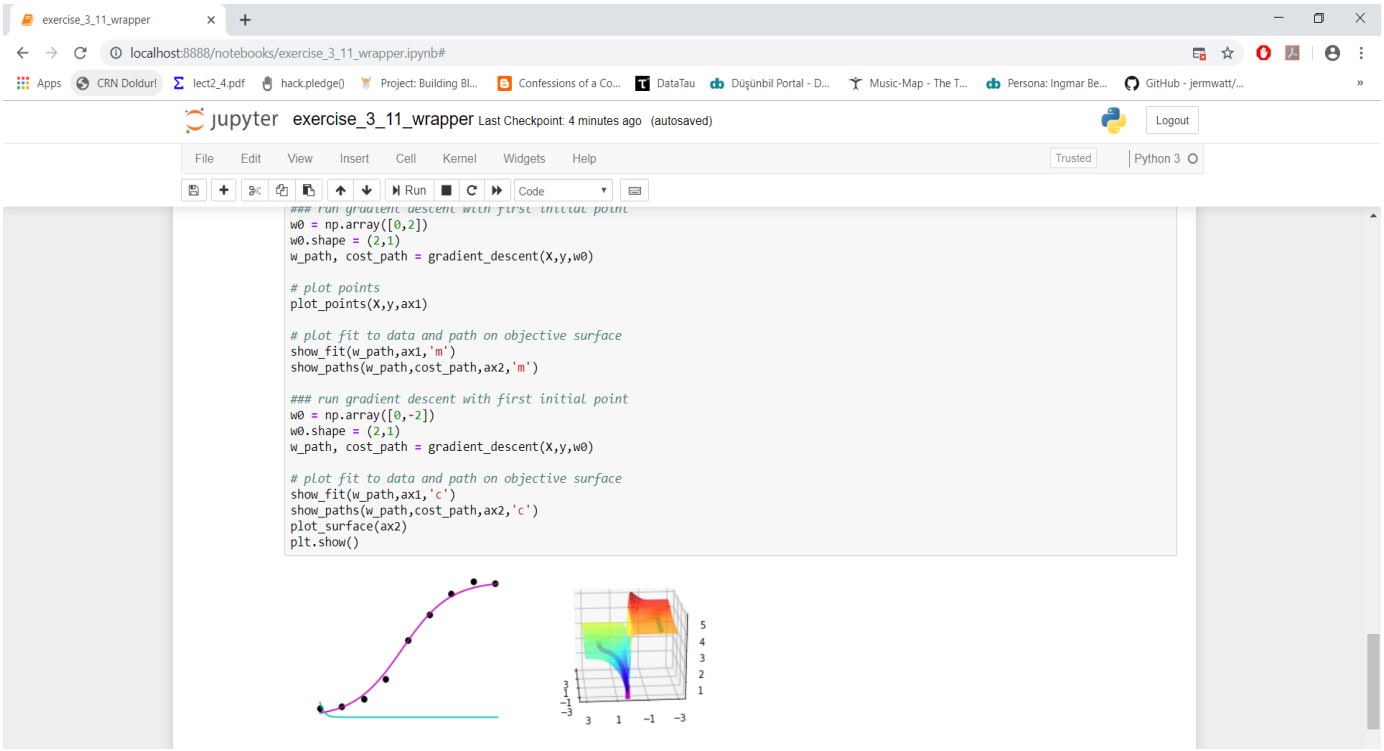
BLG454E

1.

The added/ changed code statement	Explanation
def sigmoid(z): y = 1./(1+my_exp(-z)) return y	Sigmoid function is defined with this function.
grad = np.matmul(X.T,2*(sigmoid(np.matmul(X, w)) - y) * sigmoid(np.matmul(X, w)) * (1 - sigmoid(np.matmul(X, w))))	Gradient of the associated cost function.



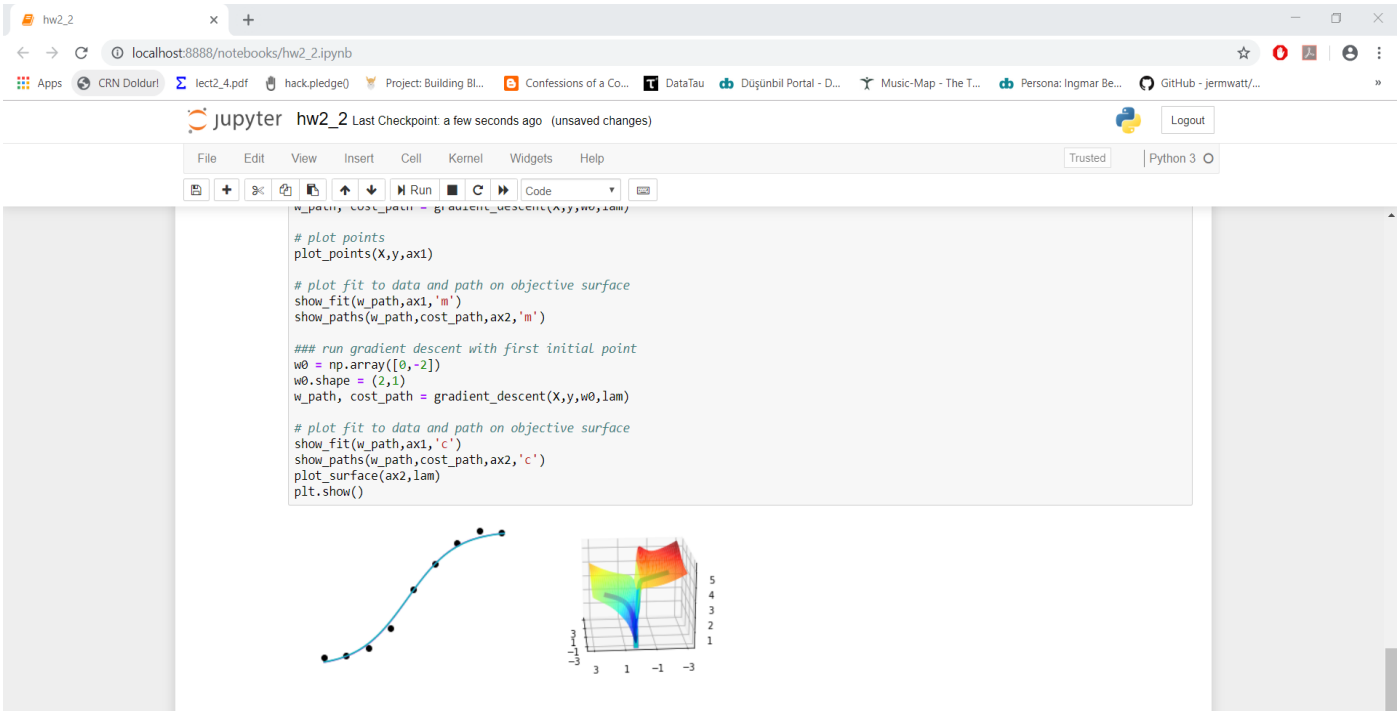
Screen shot of the solution

2.

The added/ changed code statement	Explanation

def sigmoid(z):
  y = 1./(1+my_exp(-z))
  return y
	Sigmoid function is defined with this function.

grad = np.matmul(X.T,2 * (sigmoid(np.matmul(X, w)) - y) * sigmoid(np.matmul(X, w)) * (1 - sigmoid(np.matmul(X, w)))) + (2 * lam * np.array([[0], [w[1][0]]]))	The gradient of the cost function for $\ell 2$ regularized logistic regression.



Screen shot of the solution