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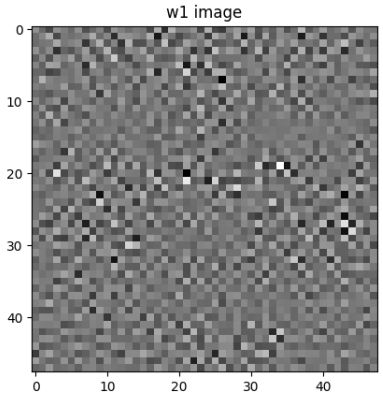
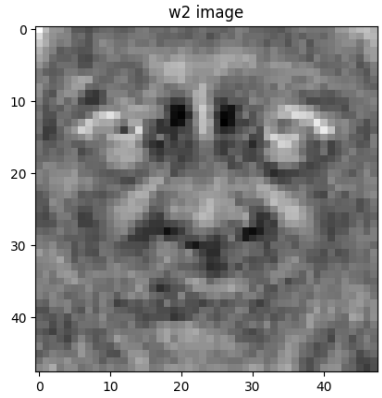
Part A:
Analytical solution training MSE: 39.242962989290724
Analytical solution testing MSE: 206.79647485479117

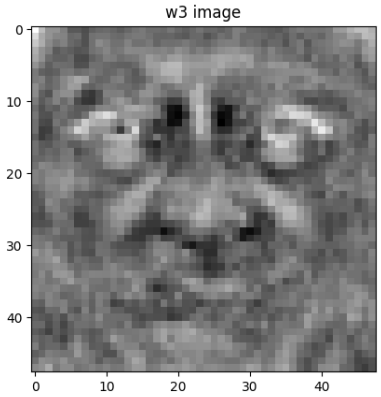
Part B:
Gradient Descent solution training MSE: 83.54765917490305
Gradient Descent solution testing MSE: 93.09376131474406

Part C:
Gradient Descent Regularized solution training MSE: 83.54235955564425
Gradient Descent Regularized solution testing MSE: 93.08536107114928

Part D:







The weight vector in part A differs greatly from the other two vectors as it appears to be random static, whilst the vectors in parts B and C have discernable faces. The differences between part B and C are hard to notice, with part C's weight vector having more distinct features.

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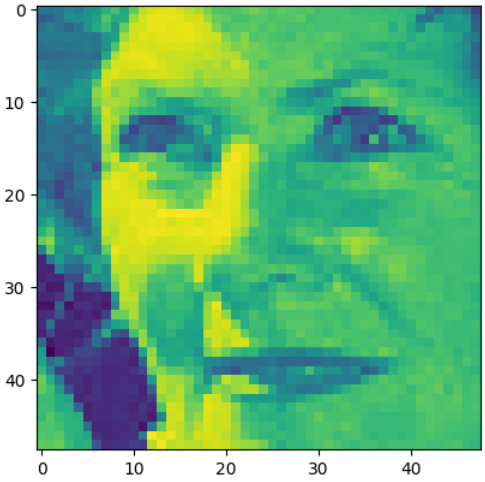
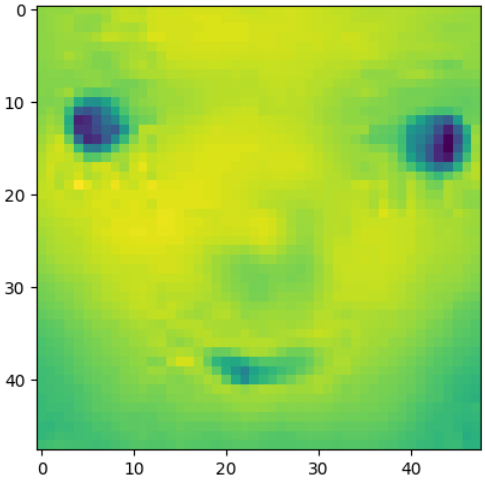
1: y = 85.0 yhat = 39.32454861572773 error = 45.67545138427227



2: y = 1.0 yhat = 45.50088096151684 error = 44.50088096151684



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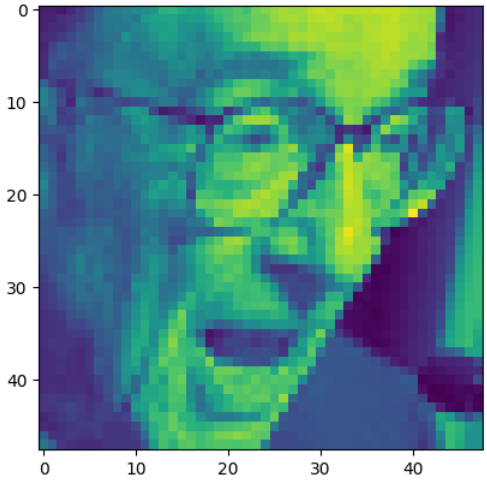
3: y = 82.0 yhat = 38.46748104756603 error = 43.53251895243397



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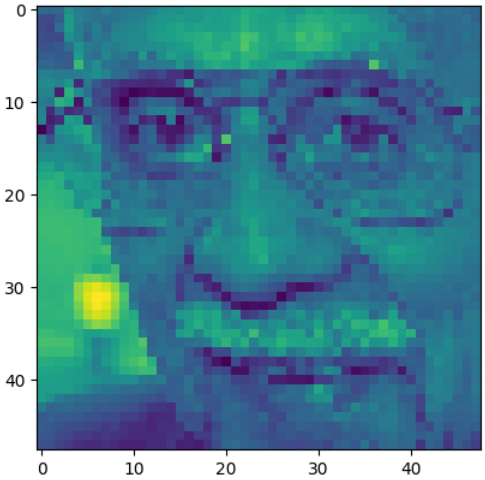
4: y = 80.0 yhat = 37.955217384422326 error = 42.044782615577674



5: y = 70.0 yhat = 28.352878598446985 error = 41.647121401553015