(1c)

	L1			L2		
Lambda	E_{in}	E_{out}	Zeros	E_{in}	E_{out}	Zeros
0	0.079	0.103	8	0.079	0.103	8
0.0001	0.079	0.098	8	0.079	0.103	8
0.001	0.077	0.093	13	0.078	0.093	8
0.005	0.081	0.089	16	0.076	0.098	8
0.01	0.09	0.079	18	0.084	0.098	8
0.05	0.14	0.103	32	0.112	0.117	8
0.1	0.188	0.136	37	0.124	0.121	8

For the L1 regularizer, as the weight of the regularizer increased, the E_{in} and E_{out} initially decreased and then increased. The regularizer initially reduced overfitting in the training set which in turn reduced error in the testing set. This can be seen as the E_{in} increases while the E_{out} decreases for Lambda values of 0.001, 0.005, and 0.01. As the Lambda weight increases, the number of zeros in the resulting weight vector also increased.

The L2 regularizer also decreased E_{in} and E_{out} as the weight of lambda increased. The number of zeros remained the same for all weights of lambda, as the L2 does not place a weight on the number zeros. This regularizer did not decrease E_{out} as much as the L1, but did increase E_{in} more, indicating that this regularizer did not reduce overfitting as much.