**The following choice of hyperparameters was made:**  
C = 1.0 for LR (Default value stated in sklearn documentation)  
C = 1.0 for LSVC and SVC with RBF kernel (Again, Default value stated in sklearn documentation)  
  
gamma\_RBF = 1.5 (Based on looping over values from 0.01 to 4.0 and choosing a conservative estimate which did not seem to overfit, gave a decent training and test accuracy and had non-zero f1, precision and recall scores)  
  
tol=1e-3, max\_iter=10000 for Perceptron (Value selected to ensure convergence of solution for given tolerance)  
max\_iter=100000 for LSVC (Value selected to ensure convergence of solution for given tolerance)  
  
  
**The following results were obtained:**  
The metrics for LR and LSVC were exactly the same. We can expect this since the hinge loss function and LR loss function have very similar behavior.  
The precision, recall and F1 score are zero for both the LR and the LSVC algorithms since they both were not able to classify any actual oranges from the test data set as oranges.  
  
The perceptron performed differently as compared to the LR and LSVC algorithms. It had a lower accuracy on the test data but it was able to correctly classify at least one orange from the test data set leading to non-zero values for precision, recall and F1 scores.  
  
The SVC with RBF kernel outperformed all the linear algorithms by obtaining higher accuracy on test data, training data and better recall and F1 scores than the perceptron. This is to be expected as the data does not appear to be linearly seperable on visually inspecting the feature space. The hyperparameter gamma was tuned to obtain the result just described for the value of hyperparameter C fixed at 1.0 unit