Based on accuracy which model is the best one?

Looking at the accuracy values for each of the 7 models we used, I would choose the Linear Discriminant Analysis (LDA) model. This is because it had the greatest accuracy value out of the 7 different models (.973).

For each of the 6 other models, explain why you think it does not perform as well as the best one.

Starting with the Linear Regression, we can flat out discount that simply because we are fitting our data to a linear line, which won't match any of the complexities of our data, that is why we get such a low accuracy for that. Next, we used a Polynomial of degree 2 regression. This for sure helped the accuracy, increasing it all the way to .893. Since we are seeing data like a parabola, we can see an overall better fit. Though, when we increase to a Polynomial of degree 3 regression, the accuracy slightly goes down. This is because we overfit our data. Quadratic Discriminant Analysis most likely had a slightly less accurate result because of the overfitting characteristic of higher degree polynomials (kind of like degree 3 regression). kNN most likely didn't have as good of an accuracy because of the way points were distributed, leading to awkward distance calculations within kNN.