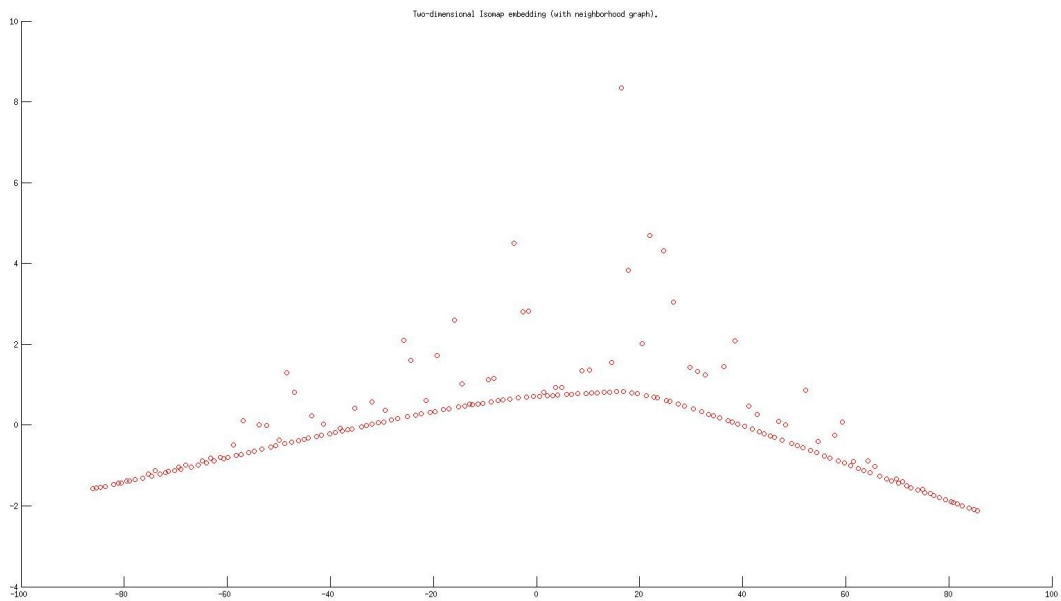


Assignment-2

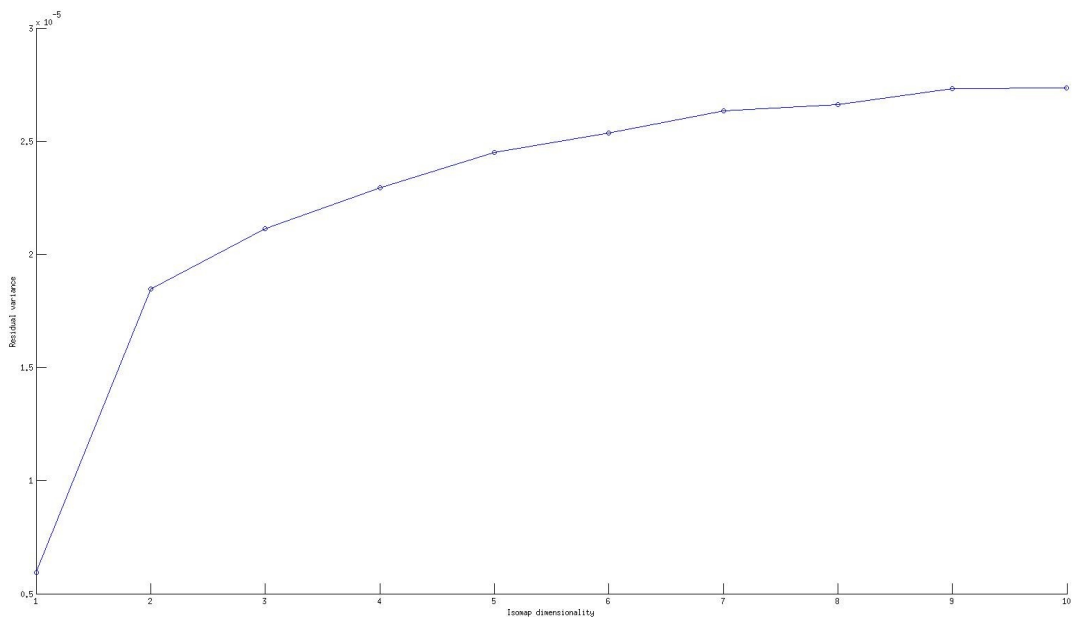
Part B

Q4(Box moving Robot(Euclidean Metric Distance))

Isomap of 200 images of Box moving Robot



Residual Variance



The dimensionality Predicted by this curve is 1 which is correct as the State of Robot is Uniquely determined by the x co-ordinate of the Box(the only independent parameter) as we saw in B3 for a fixed position of Box there are fixed $\theta_1, \theta_2, \theta_3, \theta_4$.

In B2 the dimensionality was 4 as there were no constraints on robot arm motions and all $\theta_1, \theta_2, \theta_3, \theta_4$ were independent parameters.