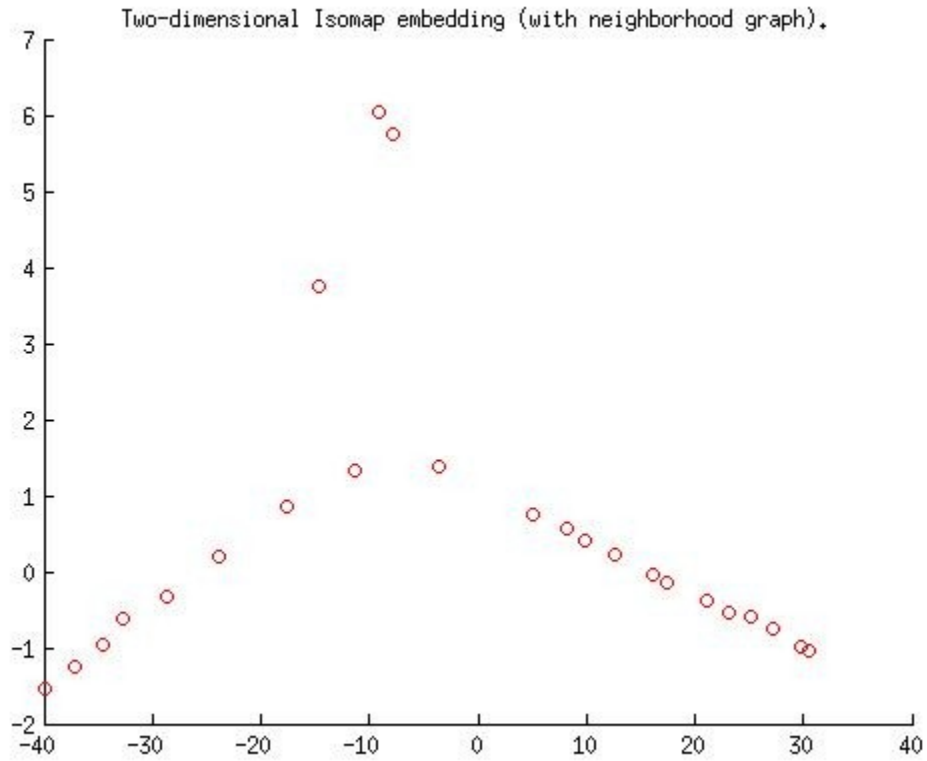


Assignment-2

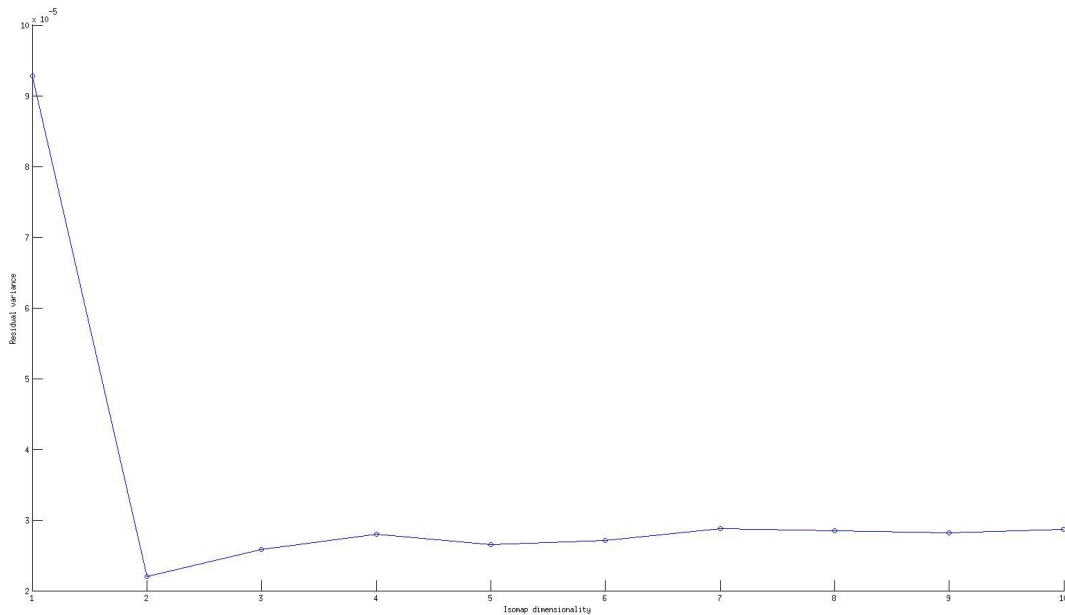
Part B

Q1(Nao Robot(Euclidean Metric Distance))

Isomap of 200 images of nao Robot



Residual Variance



The dimensionality depicted from the variance curve is 2 which is correct as the Nao robot in the pictures is moving only his hand and also in the same plane. The position of his hand is uniquely determined by the angle of shoulder(θ_1) and angle of hand wrt to arm(θ_2) .

θ_1 and θ_2 uniquely determine the robot motion \Rightarrow dimensionality=2(as predicted by isomap)