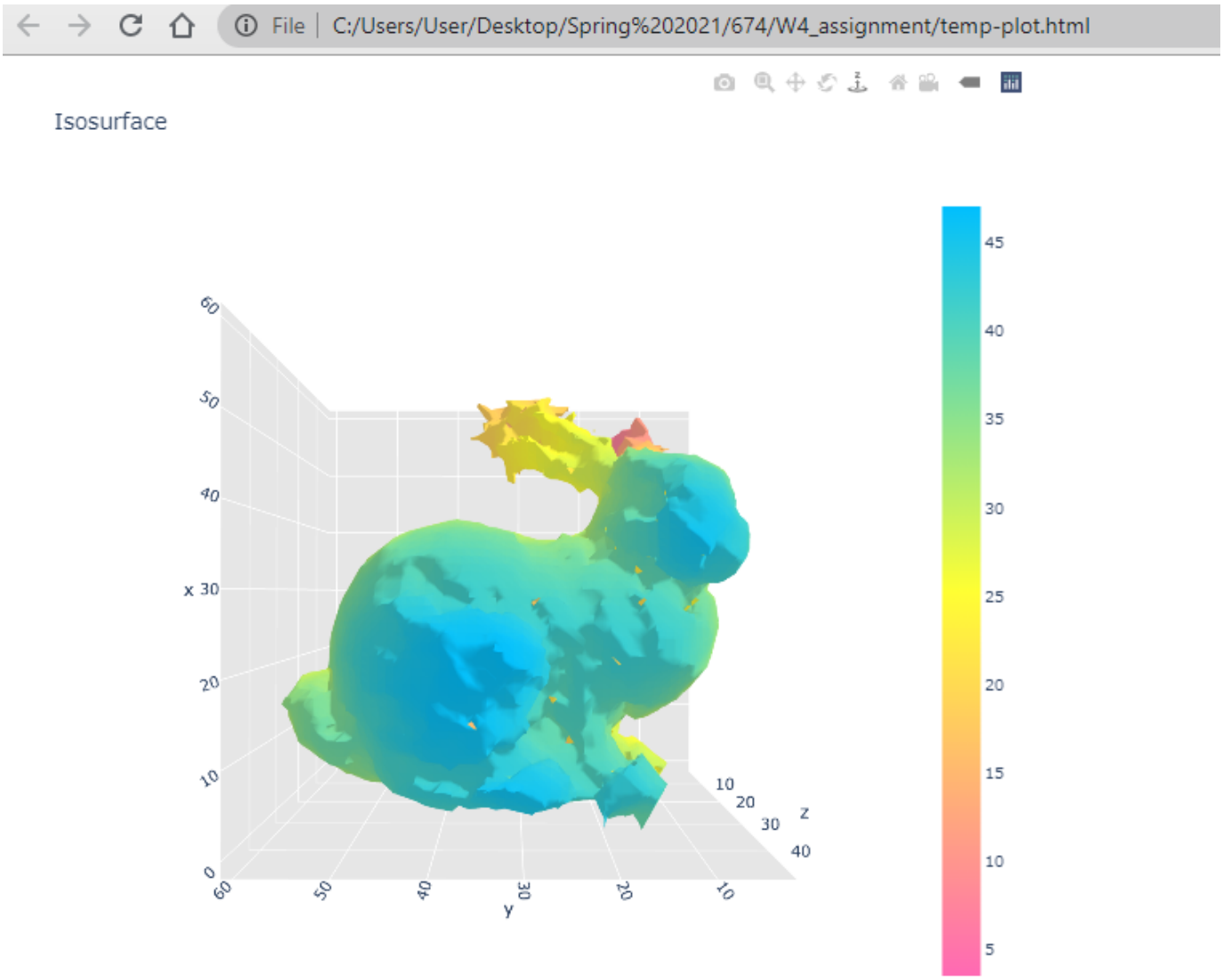
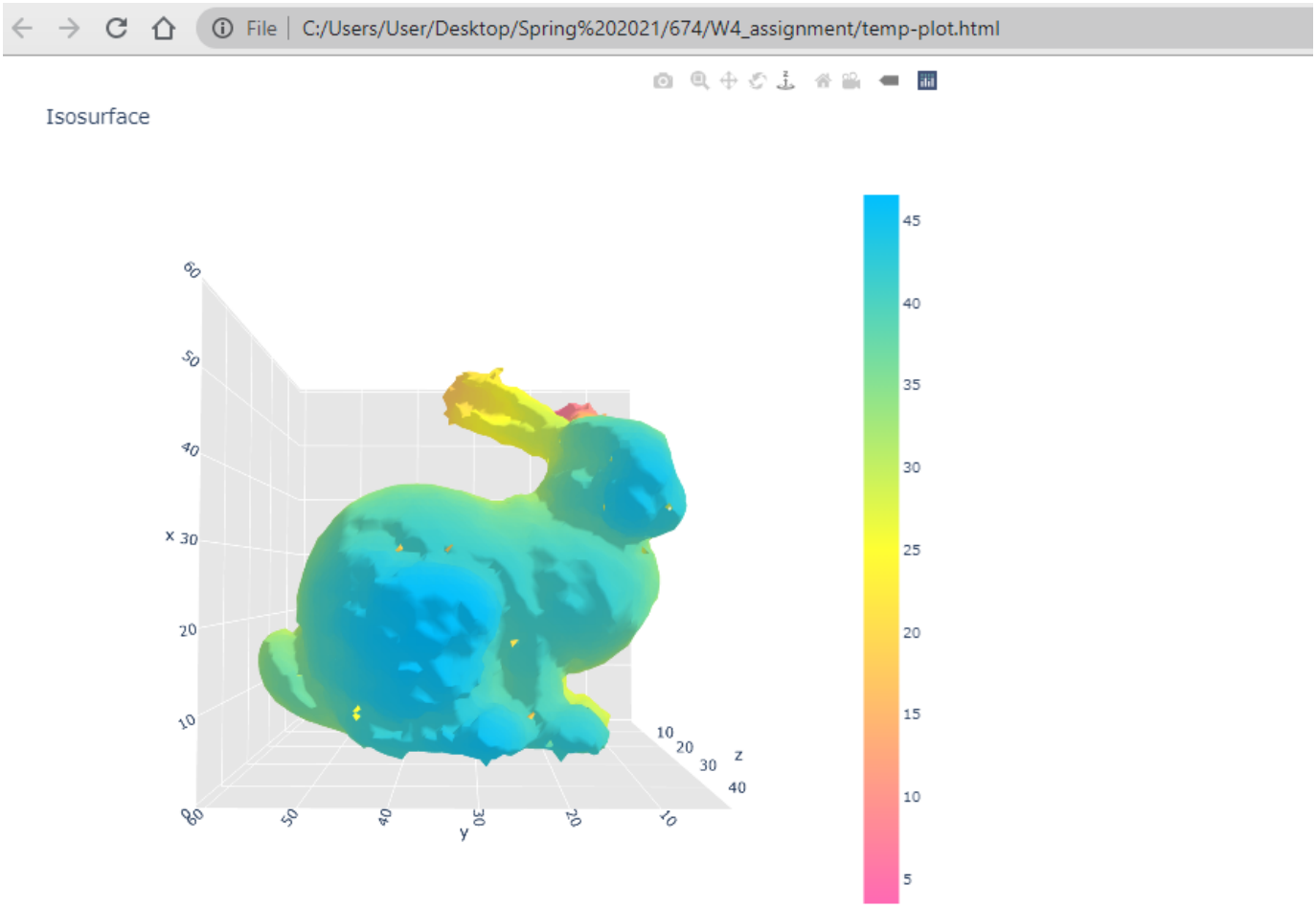
Q: 1 Implement this distance function in the 'naiveReconstruction' script.

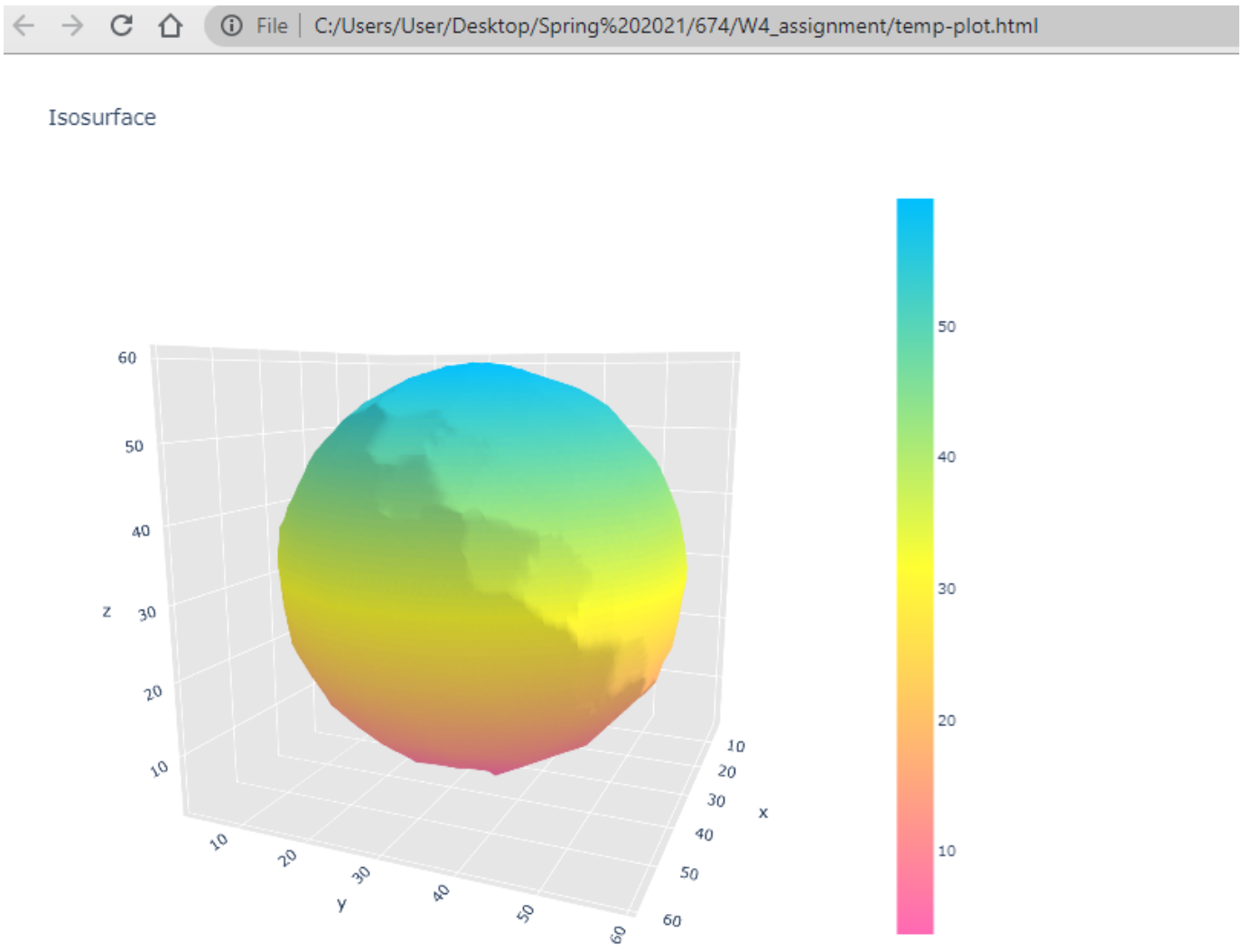
Bunny-500 using Naive Reconstruction



Bunny-1000 using Naive Reconstruction



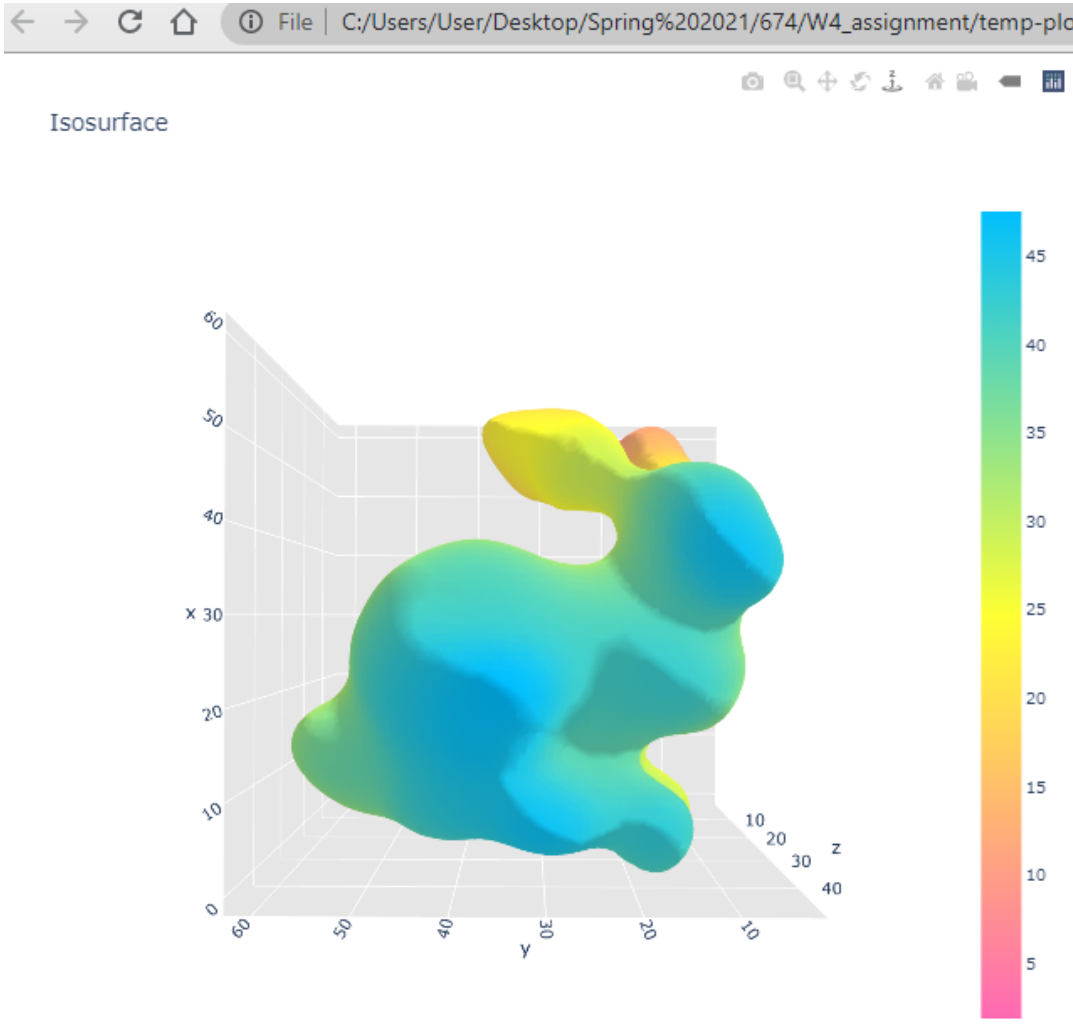
Sphere using Naive Reconstruction



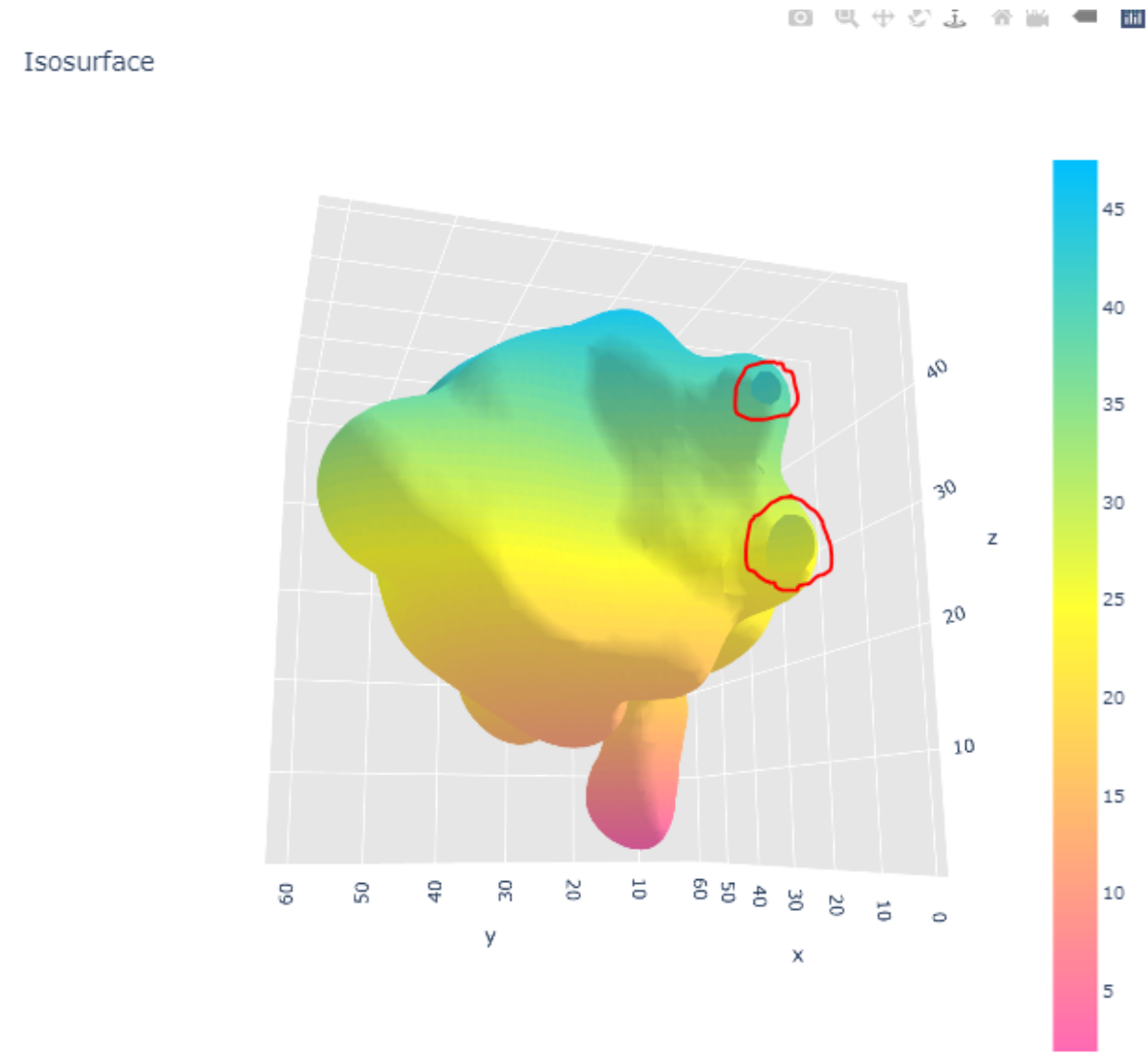
Q:2 Implement this distance function in the 'mlsReconstruction' script. You will also need to compute an estimate of $(1/\beta^2)$.

Figure | **Beta** | $(1/\beta^2)$
Bunny-500 | 0.001446 | 478259.28
Bunny-1000 | 0.010302 | 9422.30
Sphere | 0.434697 | 5.29

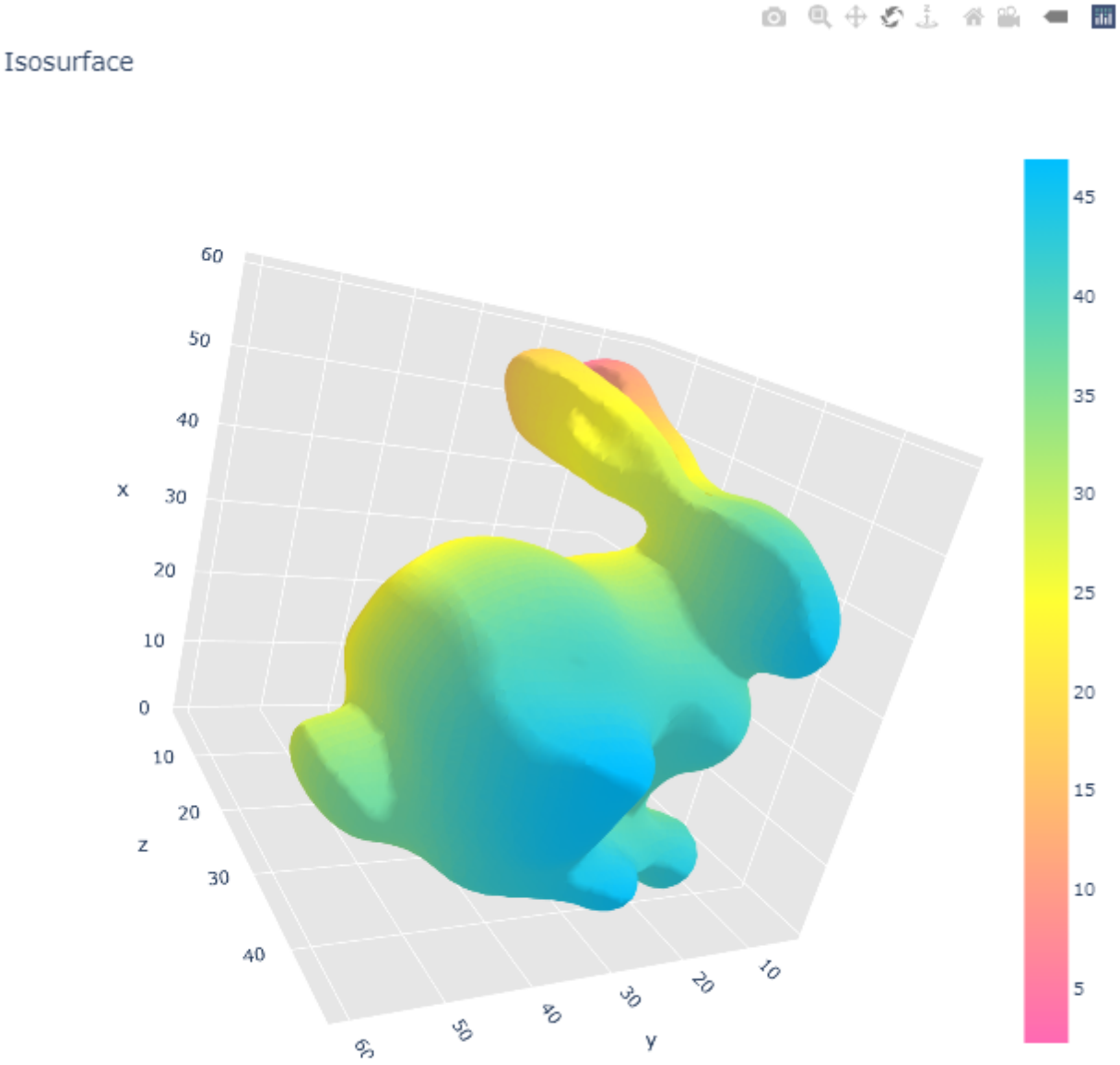
Bunny-500 for Mls Reconstruction



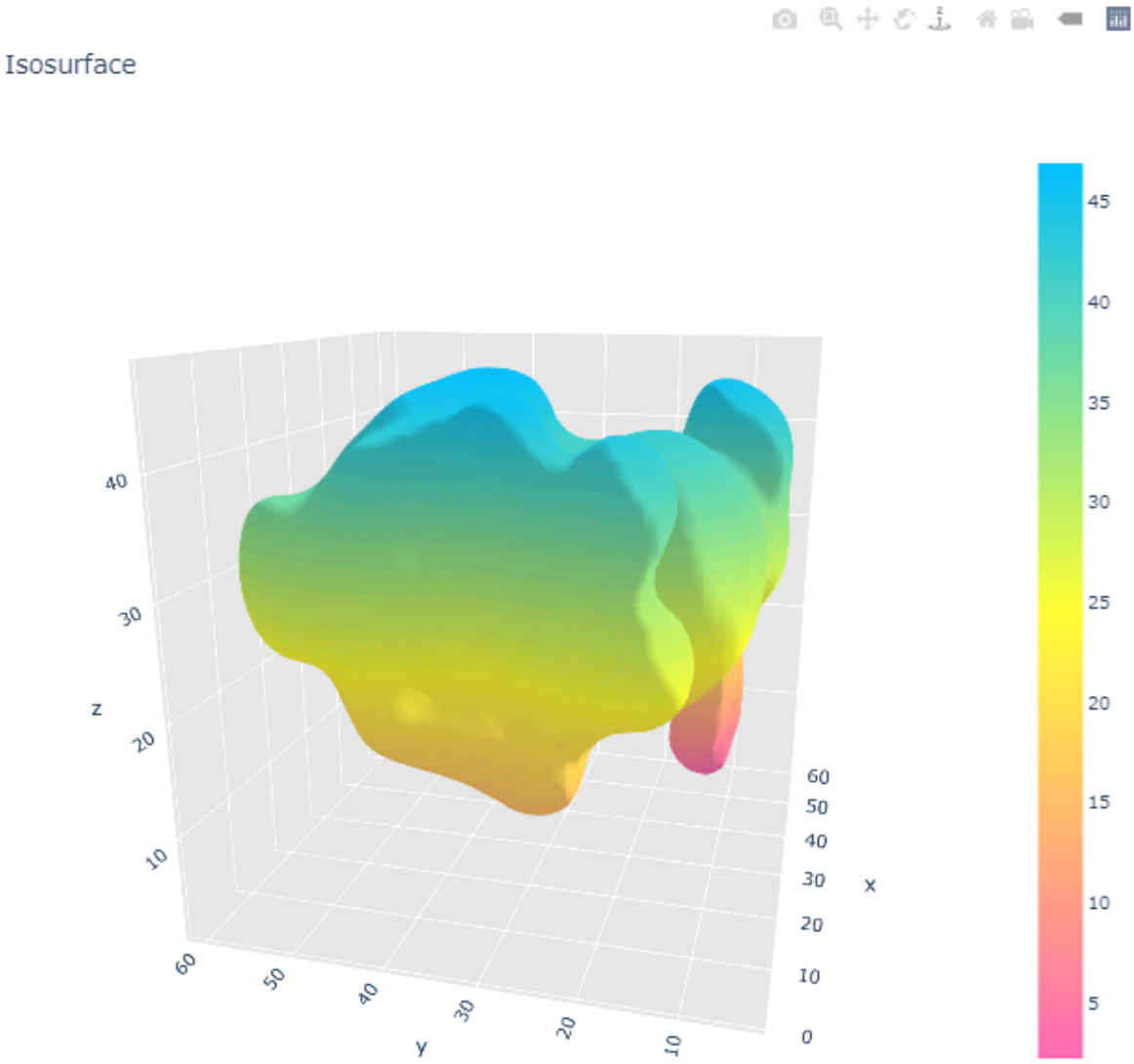
Bunny-500 has holes in it:



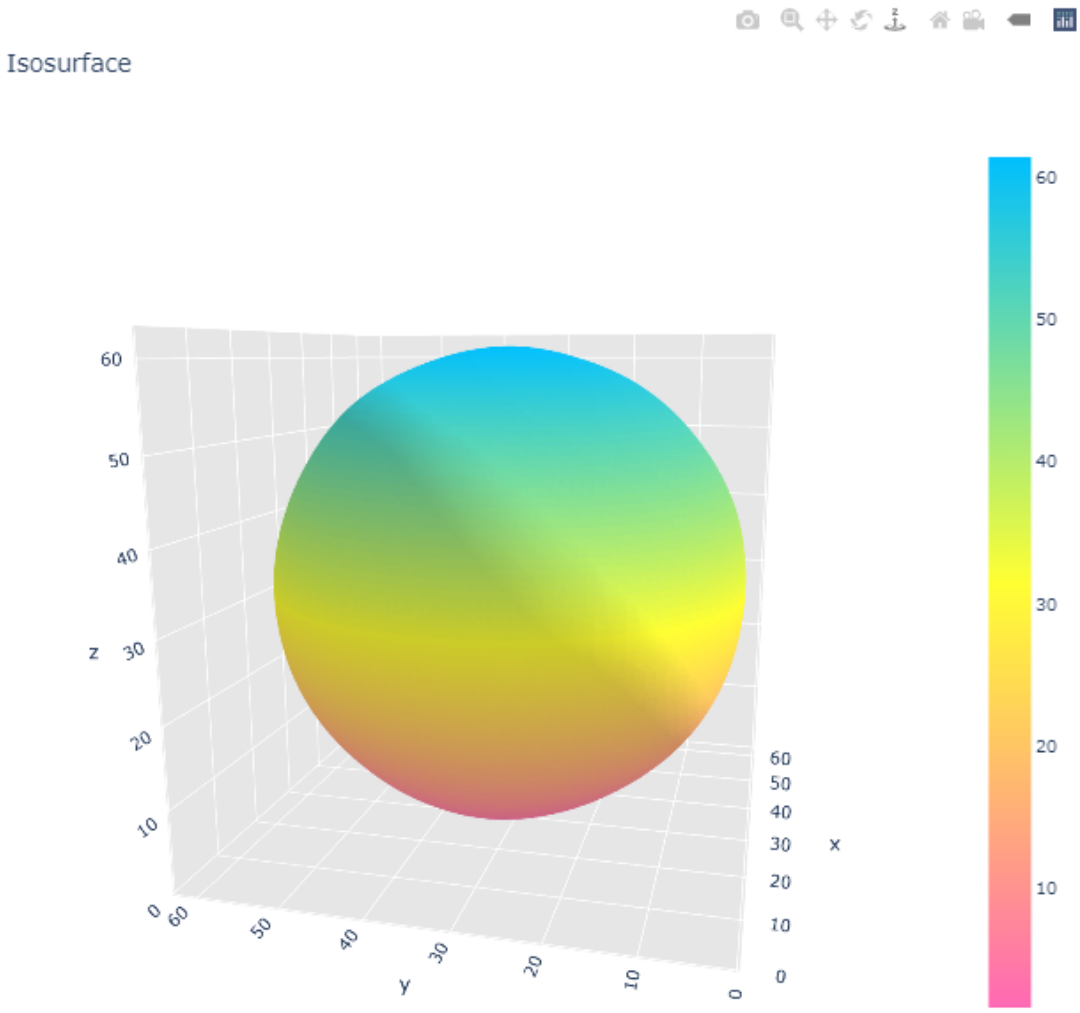
Bunny-1000 for Mls Reconstruction



Bunny-1000 has no holes for Mls Reconstruction



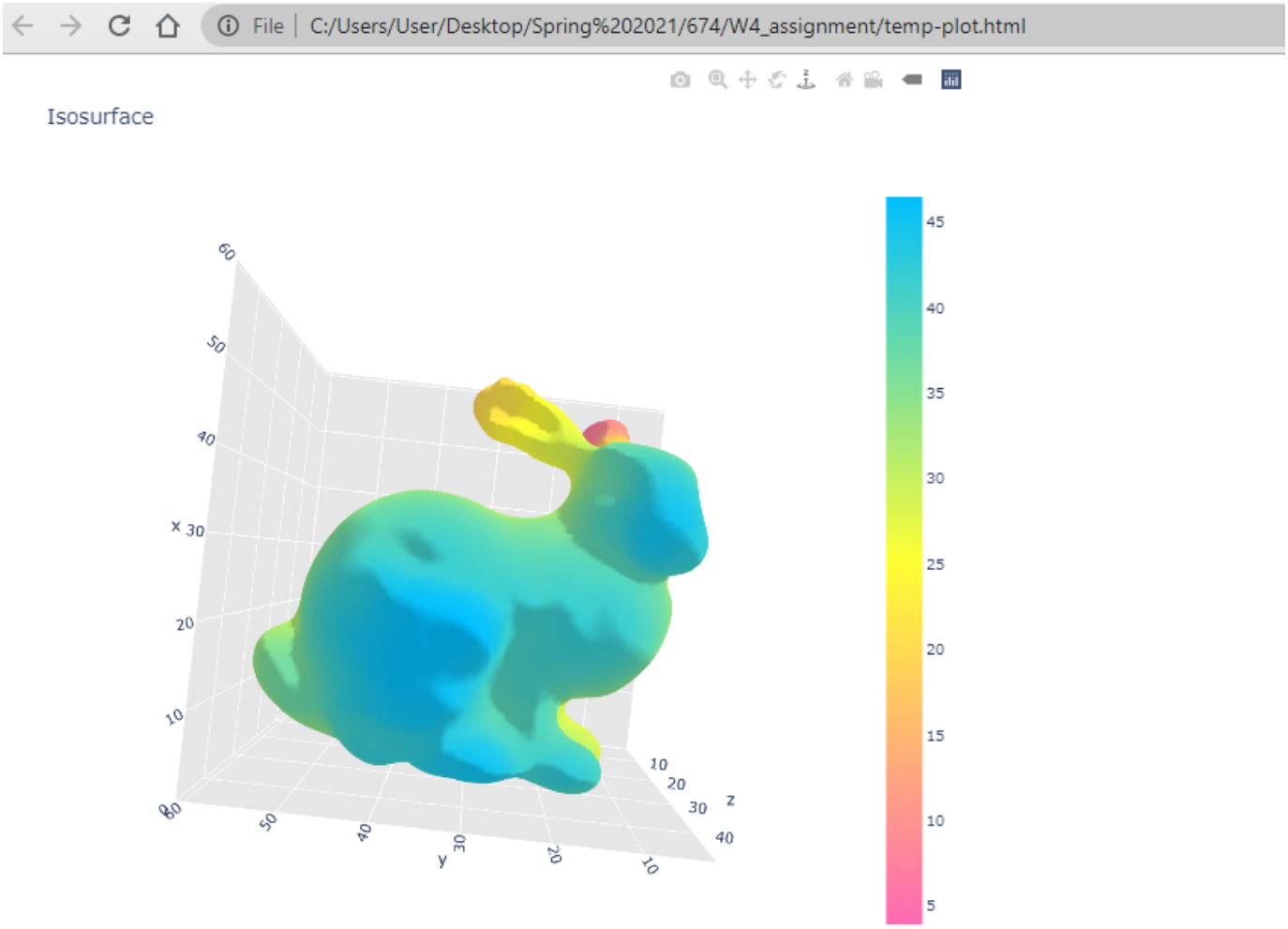
Sphere for Mls Reconstruction:



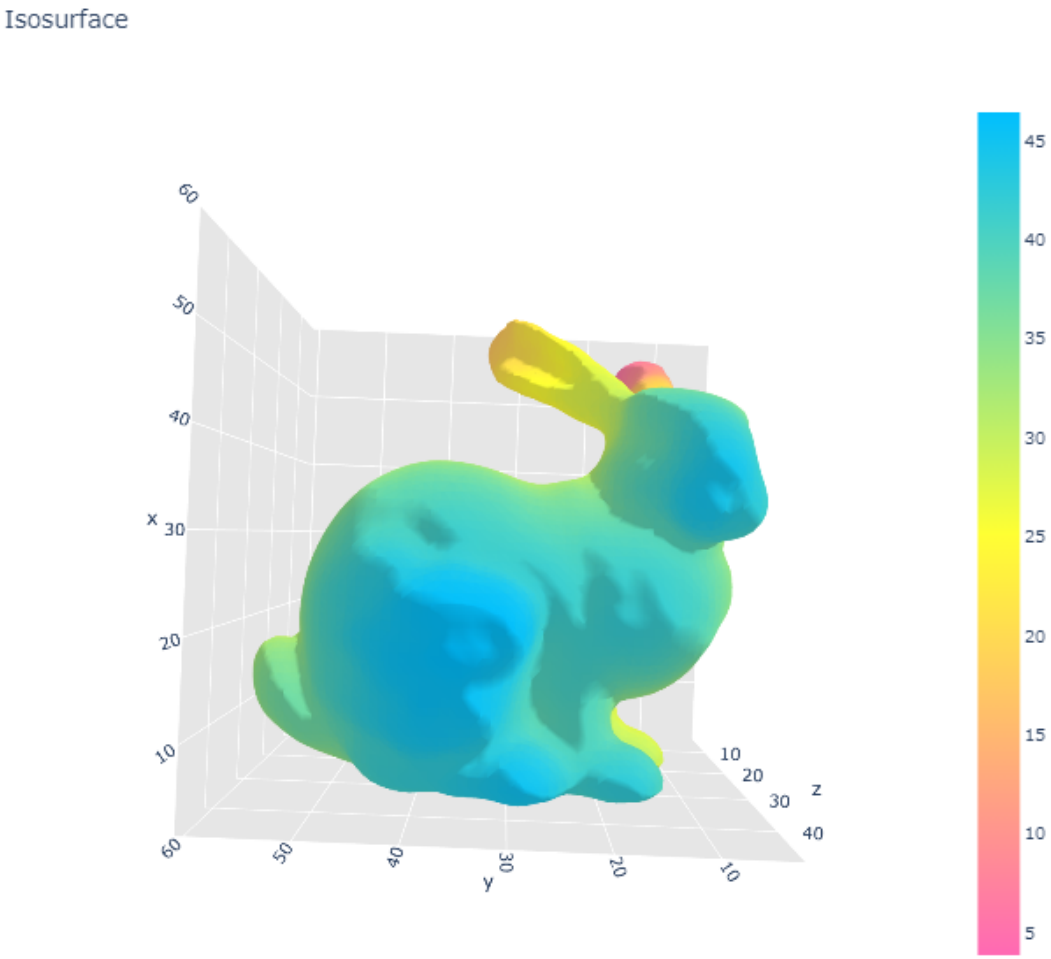
Q:3 Implement the above implicit function in the 'rbfReconstruction' script. Include in your report the value of ε yielding the best reconstruction results

Best ε : 1e-4

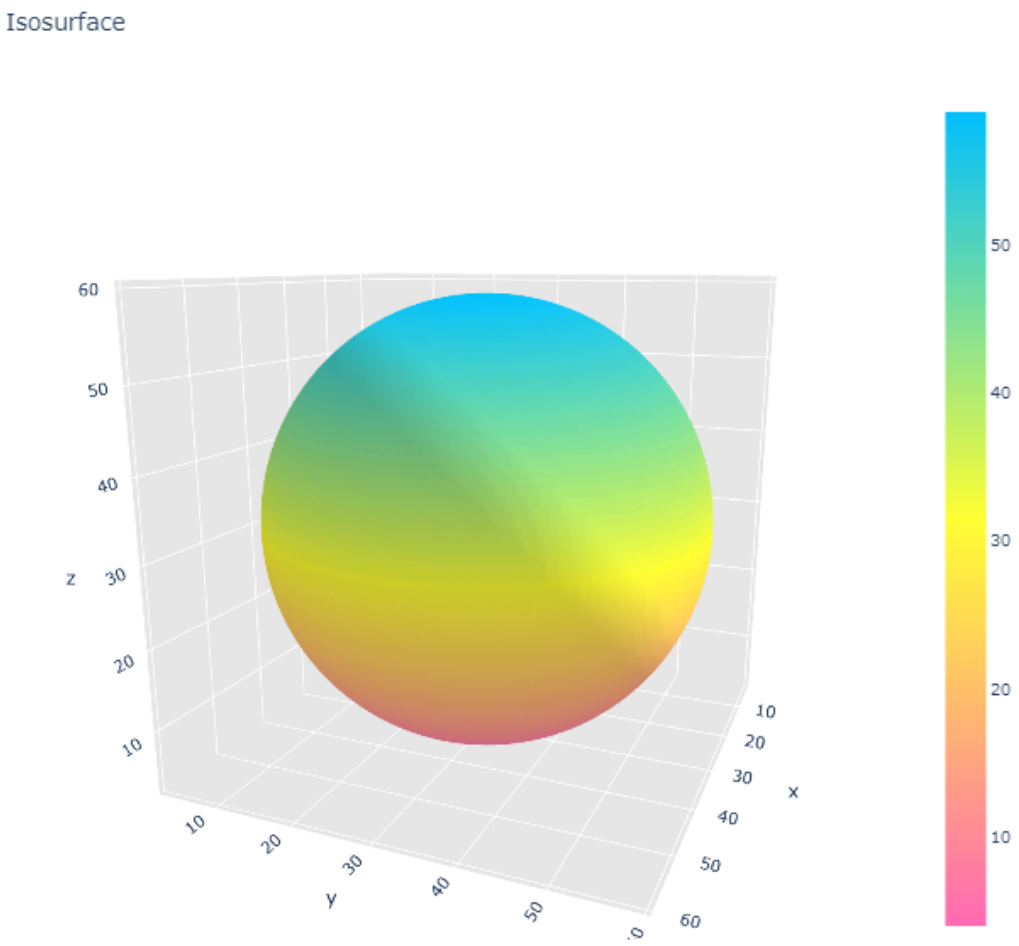
Bunny-500 for Rbf Reconstruction:



Bunny-1000 for Rbf Reconstruction

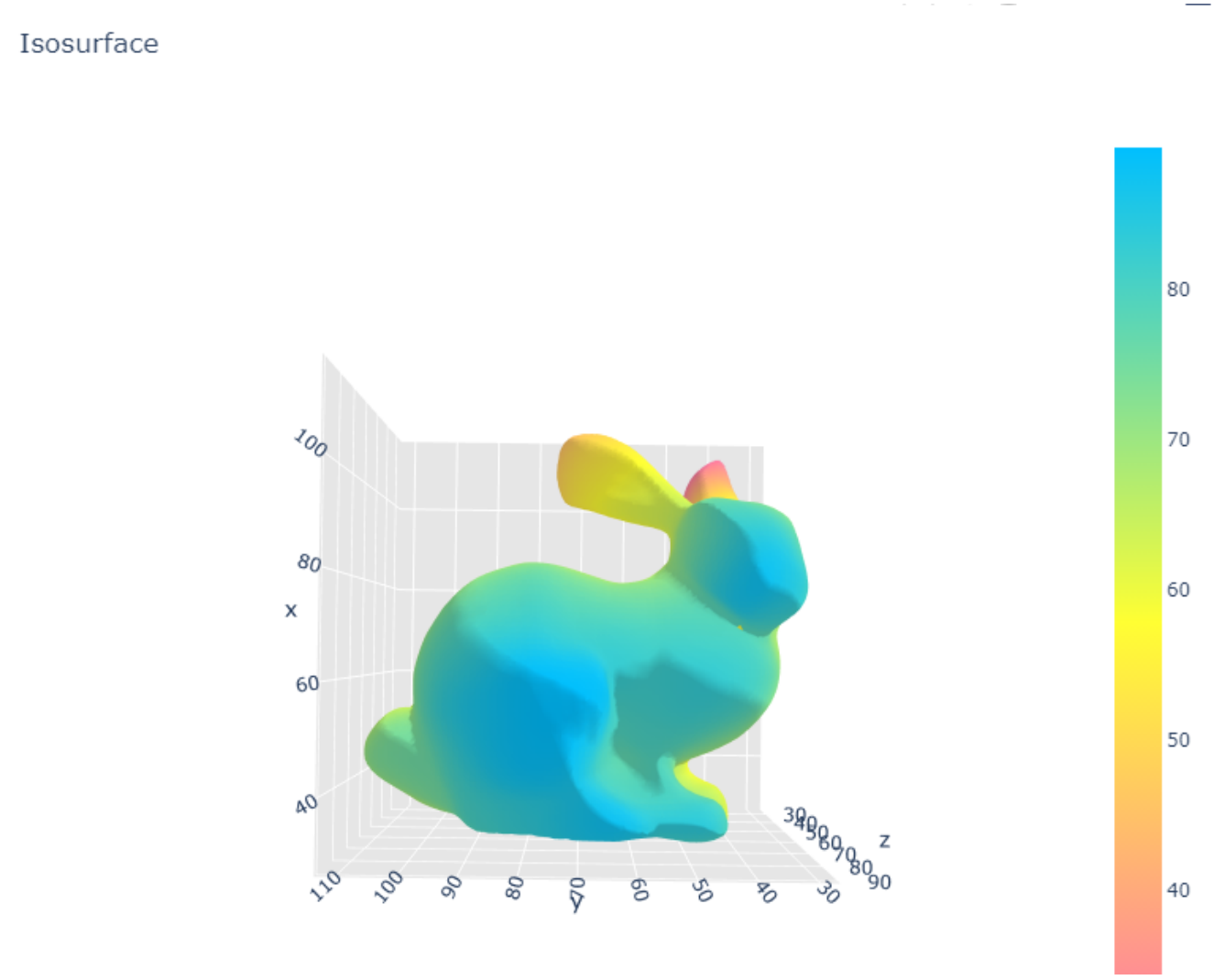


Sphere for Rbf Reconstruction:

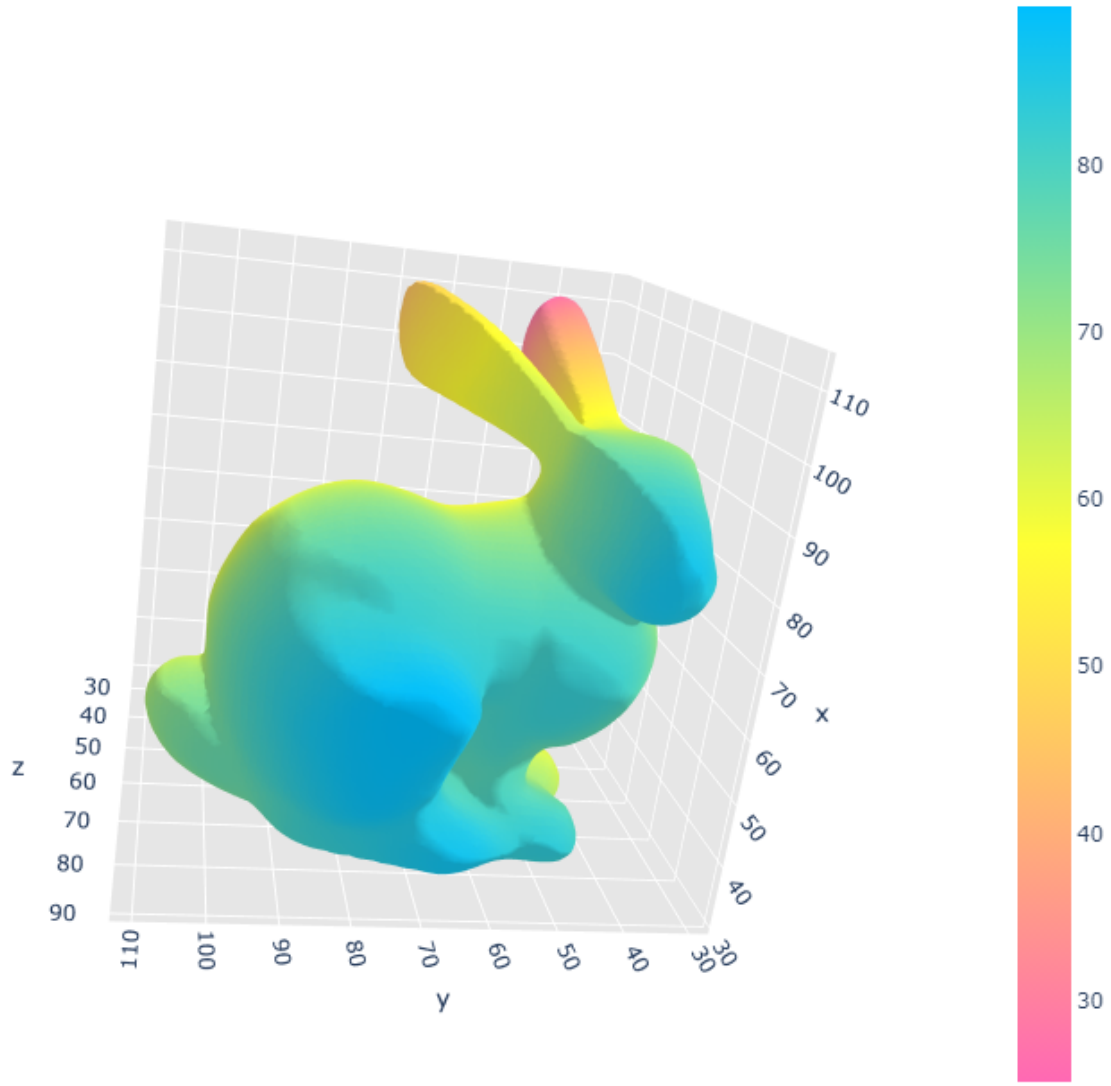


Q:4 Implement the above DeepRBF network in the 'train.py', "model.py' and 'util.py' scripts.

Bunny-500 for DeepRBF:

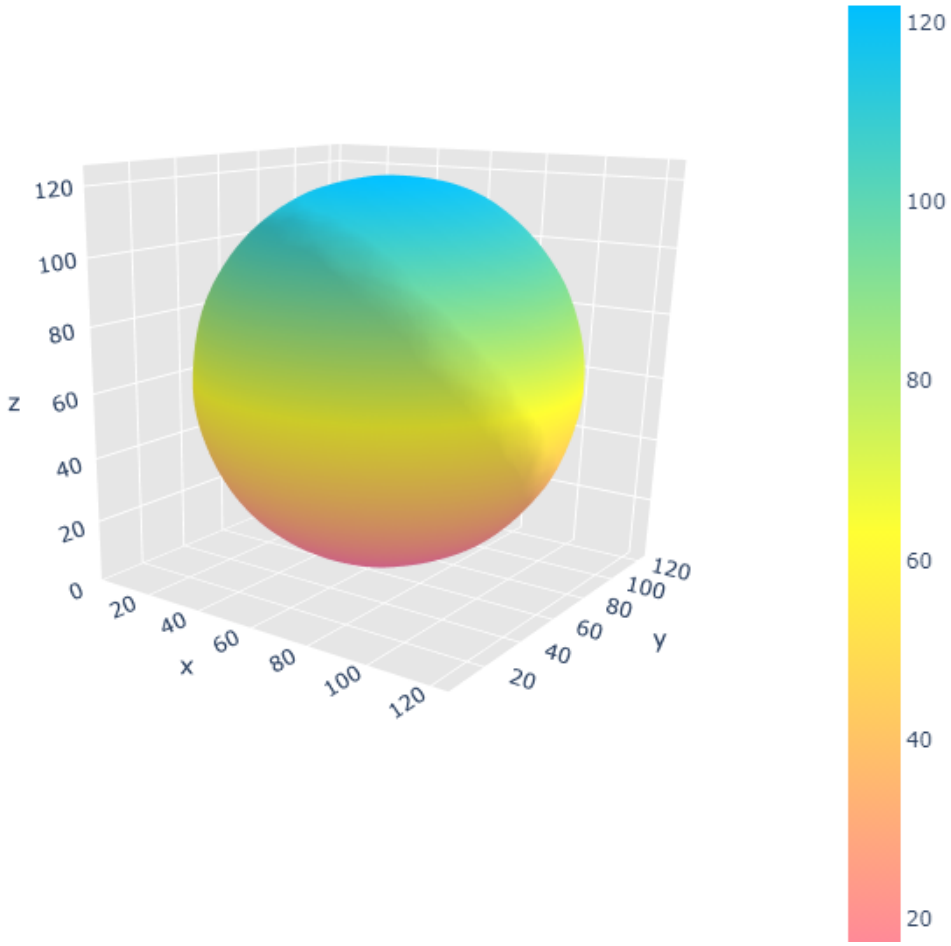


Bunny-1000 for DeepRBF:



Sphere for DeepRBF:

Isosurface


120
100
80
60
40
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0
z
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40
60
80
100
120
x
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y
120
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40
20