Chart, scatter chart

Description automatically generated Chart

Description automatically generated

**Learning rate = 0.1**

A picture containing chart

Description automatically generated Chart

Description automatically generatedChart, diagram

Description automatically generated Chart

Description automatically generated

Diagram

Description automatically generated Diagram

Description automatically generated

**Learning rate = 0.5**

Chart, diagram

Description automatically generatedChart

Description automatically generatedDiagram

Description automatically generatedDiagram

Description automatically generatedDiagram

Description automatically generatedDiagram

Description automatically generated

**Learning rate = 0.7**

Diagram

Description automatically generatedChart, line chart

Description automatically generatedDiagram

Description automatically generatedDiagram

Description automatically generatedDiagram

Description automatically generatedDiagram

Description automatically generated with medium confidence

**Learning rate = 0.9**

Diagram

Description automatically generatedChart, line chart

Description automatically generatedDiagram

Description automatically generatedDiagram

Description automatically generatedDiagram

Description automatically generatedDiagram

Description automatically generated

Chart, line chart

Description automatically generated

from the analysis of different learning rates, we can see that learning rates = 0.5, 0.7 and 0.9 converges to the MSE value = 0.7 However, for the learning rate = 0.7 and 0.9 MSE value varies a lot. On the other hand, 0.5 learning rate shows more stable values. So, I prefer to use learning rate 0.5.