

## Linear Regression (Synthetic Data)

Train Model

Enter X value:

12

Predict Y

**Predicted value for  $x = 12$  is  $y = 25.52$**

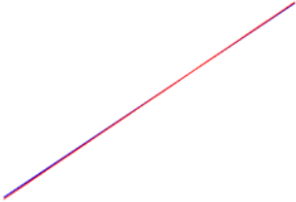
```
Live reload enabled. index.html:130
Epoch 0: loss = 70.41252899169922 index.html:72
Epoch 50: loss = 6.441447734832764 index.html:72
Epoch 100: loss = 0.0602530875205994 index.html:72
Epoch 150: loss = 0.07342516630887985 index.html:72

> ctrl i to turn on code suggestions. Don't show again NEW
```

127.0.0.1:5500/Linear%20Regression%20with%20Synthetic%20Data/Lab%20Assignment%201/index.html

Lab Assignment 1: Train Model & Plot Predicted vs Actual

Blue = Actual  
Red = Predicted



Train Model

Elements Console Sources Network >>

top Filter Default levels No Issues

Live reload enabled. index.html:101

Actual: ▶ Float32Array(5) index.html:38

Predicted: ▶ Float32Array(5) index.html:39

Actual: index.html:38

▶ Float32Array(5) [3, 5, 7, 9, 11, buffer: ArrayBuffer(20), byteLength: 20, byteOffset: 0, Length: 5, Symbol(Symbol.toStringTag): 'Float32Array']

Predicted: index.html:39

▶ Float32Array(5) [2.930471420288086, 4.9571075439453125, 6.983743667602539, 9.010379791259766, 11.037015914916992, buffer: ArrayBuffer(32), byteLength: 20, byteOffset: 0, Length: 5, Symbol(Symbol.toStringTag): 'Float32Array']

> ctrl i to turn on code suggestions. Don't show again NEW

## Lab Assignment 2: Learning Rate Experiment

Run Experiment

Elements Console Sources Network >>

top Filter Default levels No Issues

Console was cleared [index.html:45](#)

Learning Rate Experiment [index.html:46](#)

Learning Rate: 0.5 → Final Loss: NaN [index.html:52](#)

Learning Rate: 0.1 → Final Loss: Infinity [index.html:52](#)

Learning Rate: 0.01 → Final Loss: 0.006346502806991339 [index.html:52](#)

Learning Rate: 0.001 → Final Loss: 0.026296479627490044 [index.html:52](#)

Observe how large LR may diverge and small LR converges slowly. [index.html:55](#)

> `ctrl` `i` to turn on code suggestions. [Don't show again](#) NEW

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# Lab Assignment 3: Predict Unseen Inputs

Train & Predict

Elements | Console | Sources | Network >>

🔍 top 🔍 Filter

Default levels 🔻 No Issues ⚙️

Console was cleared index.html:31

Unseen Input Prediction Analysis index.html:32

Input: 6 index.html:45

Expected: 13 index.html:46

Predicted: 13.07 index.html:47

Error: 0.07 index.html:48

----- index.html:49

Input: 7 index.html:45

Expected: 15 index.html:46

Predicted: 15.11 index.html:47

Error: 0.11 index.html:48

----- index.html:49

Input: 10 index.html:45

Expected: 21 index.html:46

Predicted: 21.20 index.html:47

Error: 0.20 index.html:48

----- index.html:49

Input: 12 index.html:45

Expected: 25 index.html:46

Predicted: 25.26 index.html:47

Error: 0.26 index.html:48

----- index.html:49

> `ctrl` `i` to turn on code suggestions. *Don't show again* NEW