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Observation made on changing epoch

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| --- | --- | --- | --- |
| Epoch | weight(w) | Bais(b) | error |
| 1000 | -12.8721 | -0.1342 | 0.4247 |
| 500 | -10.1831 | -0.3685 | 0.4241 |
| 100 | -3.9112 | -1.327 | 0.4184 |
| 50 | -2.8629 | -1.6400 | 0.4169 |
| 20 | -2.3220 | -1.8501 | 0.4162 |

This observation is made with two inputs and we can see that as we decrease the epochs value of weights increases, bais decrease and error will decrease.

Now taking 10 inputs instead of 2 and inputs are

X = [0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0 ]

Y = [0.2, 0.5, 0.9, 1.2, 1.6, 2.0, 2.5, 3.0, 3.3, 3.5 ]

---> W = 10 b = 10 eta = 1 epochs = 10000

w = 9.87316922833985 b = 9.987235814157158

Error = 10.044999734720356

---> W = -2 b = -2 eta = 1 epochs = 10000

w = -19.838898649750185 b = 0.30219328212469065

Error = 23.74498668745718

[Link for the code](https://colab.research.google.com/drive/1AuNPw2Cc9DJQvpgVG80h5c8-etejWnvM?usp=sharing)