

MCSE603L Deep Learning

Digital Assignment 1

1. Implement XOR function using perceptron. Illustrate with a suitable diagram. Upload necessary code and the screenshot of the output. (10 marks)
2. The table shows the no of hours worked by an employee and the number of toys fabricated by him. Find the line of best fit using least square method. Apply the below gradients and determine optimal value for 'm' and 'c'. Comment which type of gradient reduces the cost effectively.

1. Batch gradient or Vanilla gradient
2. Stochastic gradient

Hours worked(X)	Number of toys fabricated(Y)
1	10
2	22
3	15
4	20
5	31
6	45
7	18
8	17
9	23
10	40

Based on the regression equation obtained, how many toys will be manufactured by the employee if he works for

- a. 2.5 hours
- b. 15 hours

Analyse and give your prediction.

Note: Manual calculation is required. Need not upload any code for this question (10 marks)