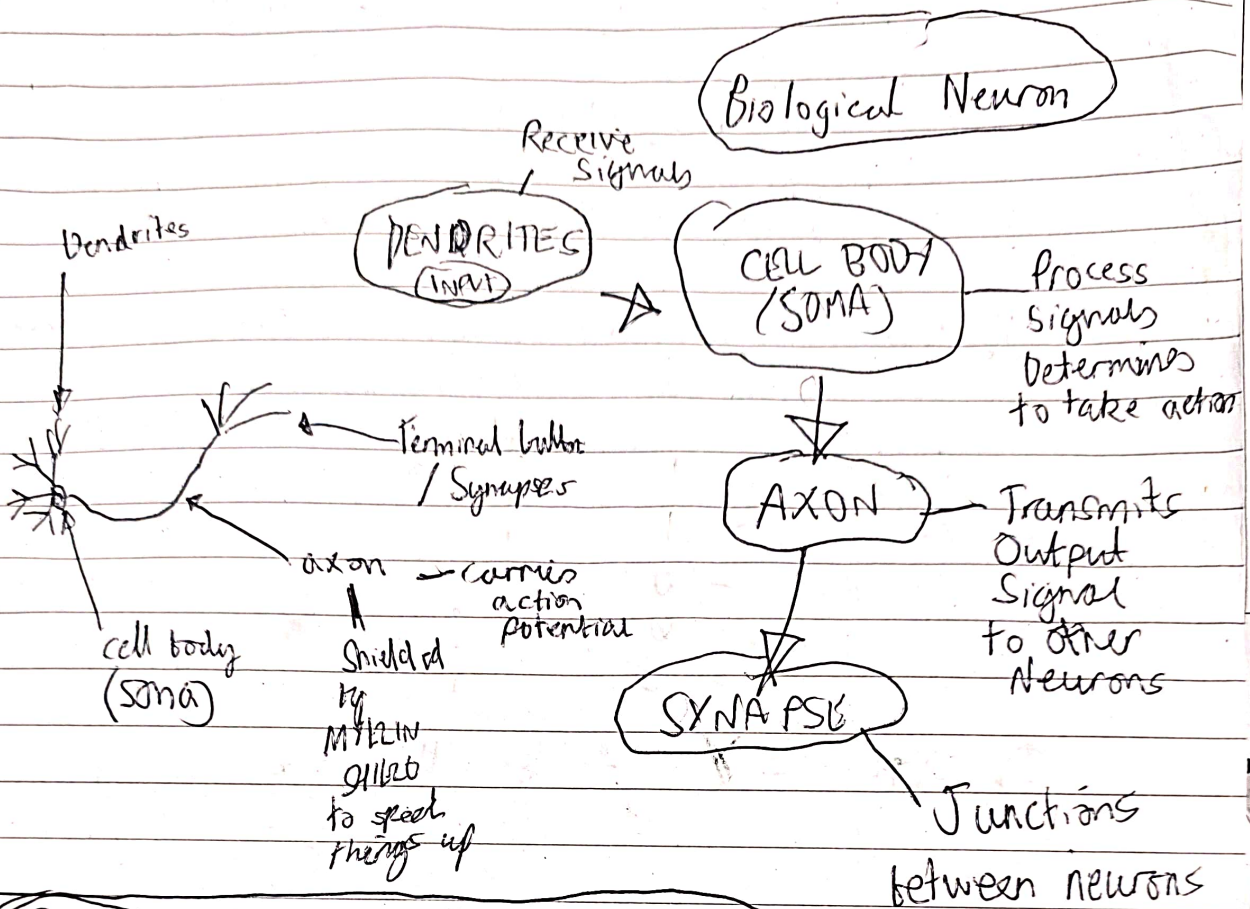
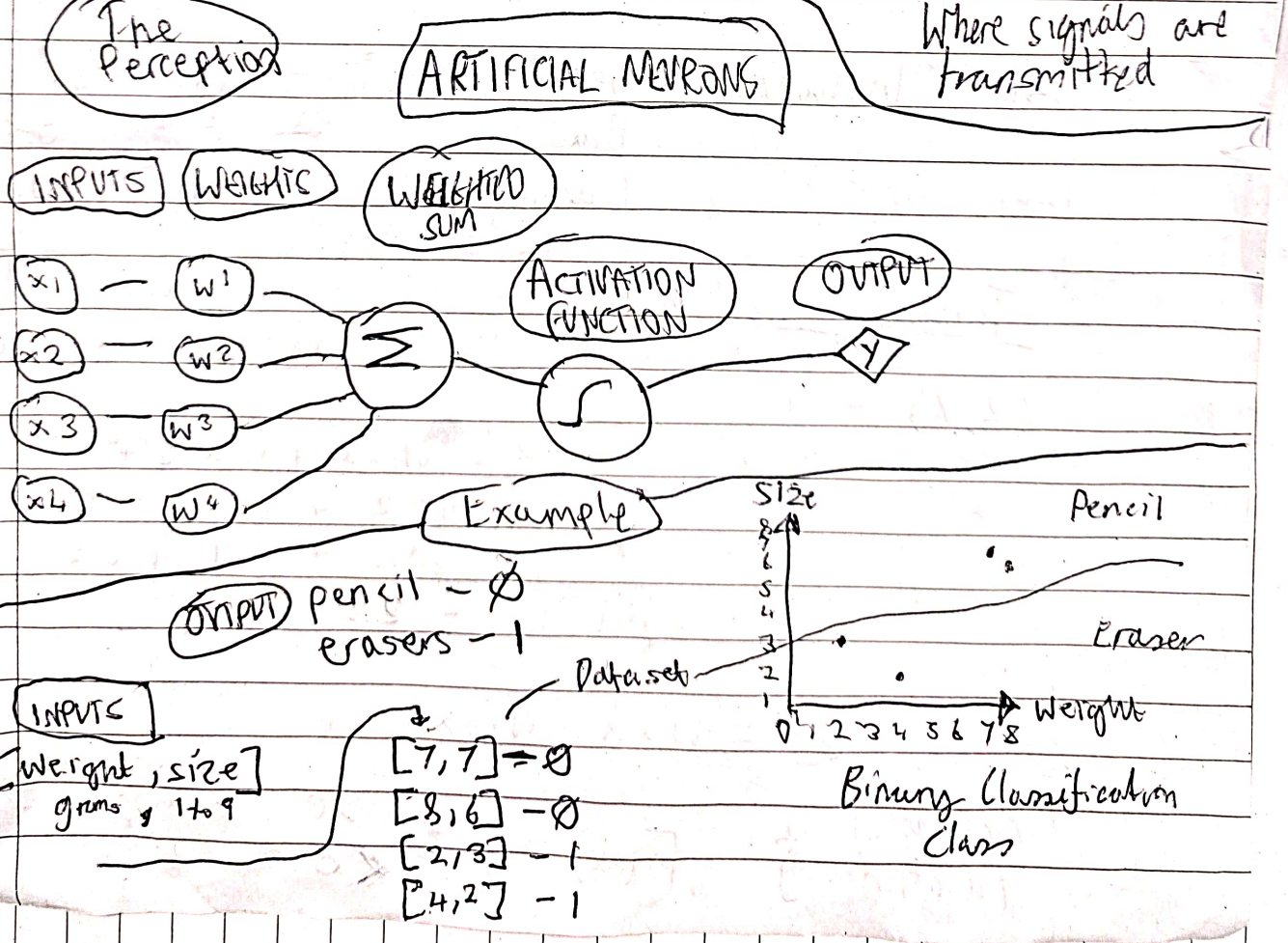
1 Neural Networks in Javascript





(2)

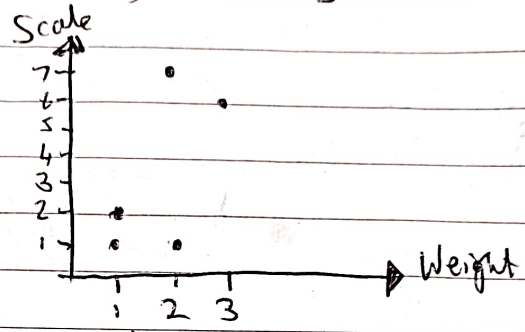
ARTIFICAL INTELLIGENCE

Project 1

Pencil or Eraser ?

(i) INPUTS (Weight, Scale) Weight - grams
(x^1, x^2) Scale - 1-10

(2,7) - 1
(3,6) - 1
(1,1) - Ø
(1,2) - Ø
(2,1) - Ø



(2) OUTPUT = Y - be either Ø or 1 classification
Eraser Pencil

(3) - Includes Weights - W 0.1, 0.3
Bias - b 0.5
Learning Rate - η 0.1

Training the model

W b
Using weights 0.1, 0.3 bias = 0.5

(2,7) - 1
INPUT x OUTPUT y

$z = w_1 \times x_1 + w_2 \times x_2 + b$
$0.1 \times 2 + 0.3 \times 7 + 0.5$
$0.2 + 2.1 + 0.5$
Weighted Sum = 2.8

$z = w_1 \times x_1 + w_2 \times x_2 + b$

Activation function } $F(x) = \begin{cases} 1 & => 0 \\ 0 & <= 0 \end{cases}$