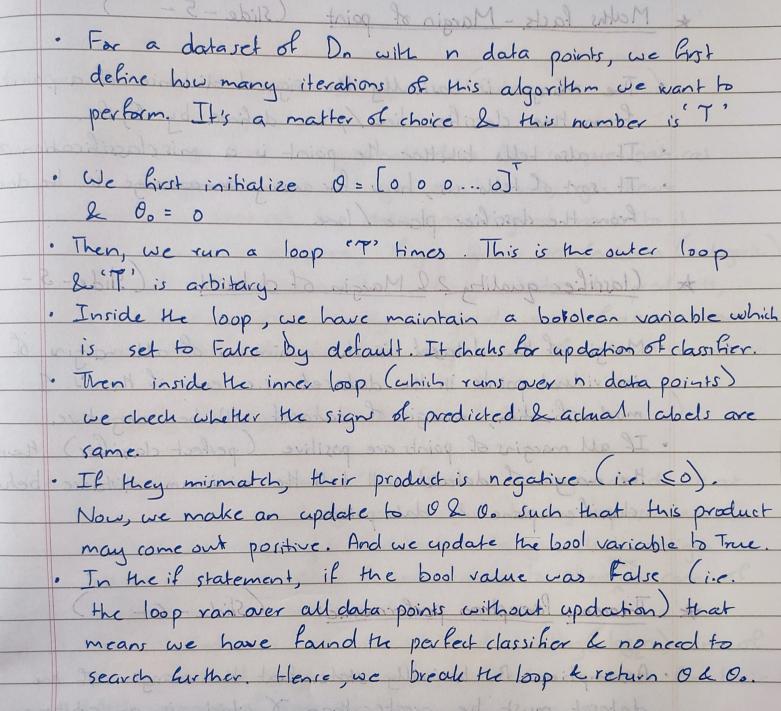
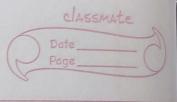
A Perceptron Algorithm: - (slide - 3-72) del mediamento with to (1-22 1-2) The percaption algorithm is a course correction type of algorithm i.e. it updates it's classifier every time the predicted & the actual label for a data point don't mater.



\* Classifier Quality: - (slide - 4-) · Assuration of distinger R such that no point in in the dataset Dr. successfully.



\* Maths facts - Margin of point (Slide - 5 - )

- The margin is basically the signed distance of a point from the classifier line/plane defined by 0,0.
  - · It also tells thether the point is a mis classification or not . It sort of tells us, how far away on average is the data
  - from the classifier plane / line.

\* Classifier quality 22 Margin of dataset (Slide-5-· Margin of the dataset is the minimum of all margin of individual points in the dataset. i.e. even if there's 1 misdossification, margin of dataset will be negative. · If all margins of points are positive (perfect classifier) then the morgin of dataset will tell the minimum distance between classifier plane & data points. may rome out portion. And we applied the loss . In the if statement if the book value was False

\* Theorem: Perceptron performance: - (Slide - 6 - )

- Assumption B basically states that the margin of the dataset must be greater than & which is an arbitrary value. i.e. There must be sufficient distance between data points be classified line.
  - · Assumption C describes distance R such that no point in the dataset has magnitude greater than R. All datapoints line IN the circle defined by radius R at origin.