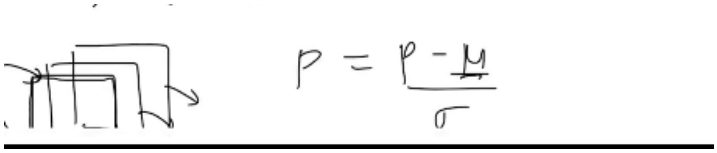


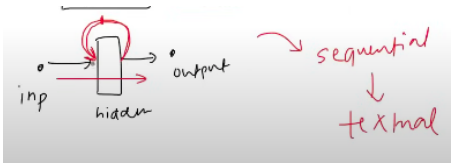
https://colab.research.google.com/drive/1zmUGFtmyceXvAAjlDM6ncK40fwCDlqzZ

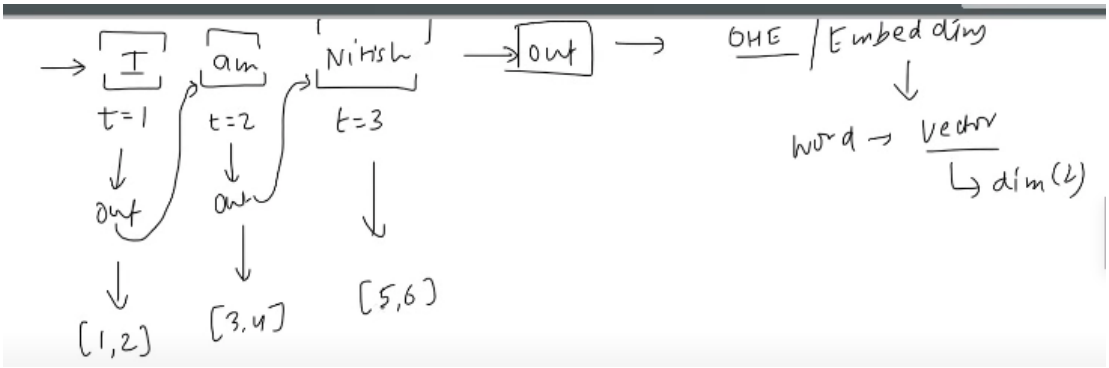
RNN using pytorch

- Mainly textual , sequential data
- RNN arch - https://youtu.be/4KpRP-YUw6c?si=ll5boxGJIZvt8w5G

RNN is a type of NN designed for processing seq data. UNlike trad feedforward netwrosk which process inputs independently , RNNs maintain a memory of prev inputs by using looops in their arch.

This makes them well-suited for tasks wher context and order matter such as time series forecasting , speech recog , text .

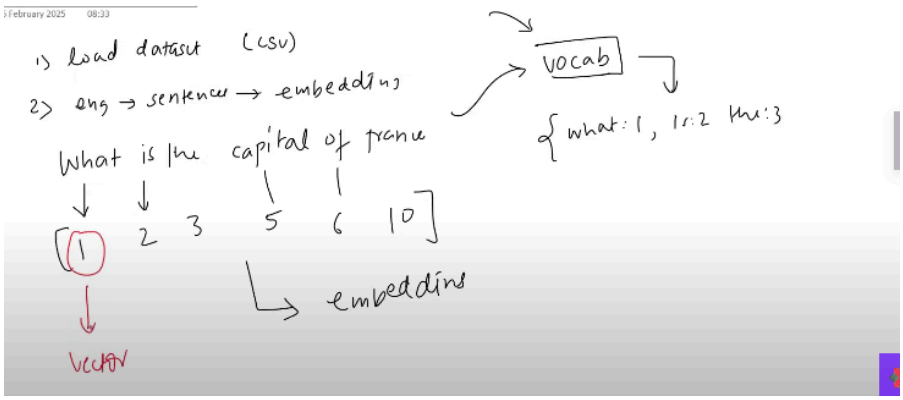




at t=1 “I” is going inside and RNN is doing calc and outputs O1 #To maintain consistency O0 is also sent to first pass(random numbers)
- “am” is sent along with o1 and get o2
- “nitish” + o2 → o3

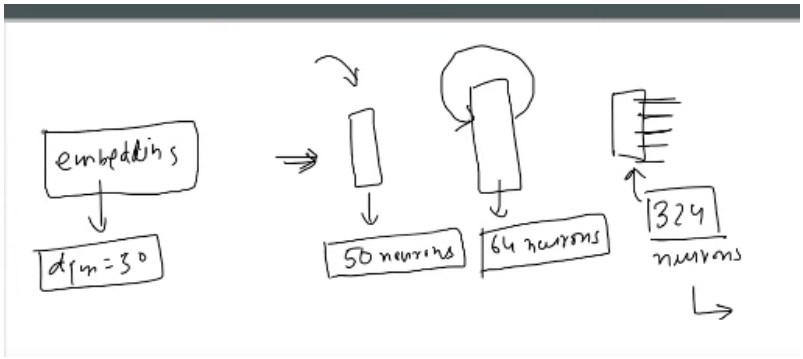
THIS IS CALLED UNFOLDING THRU TIME

- Strategy - load dataset ; ENg sentences → embeddings or OHE; BUild rnn arch ; Train eval



a vocab of all unique words is formed before embedding

- RNN arch:



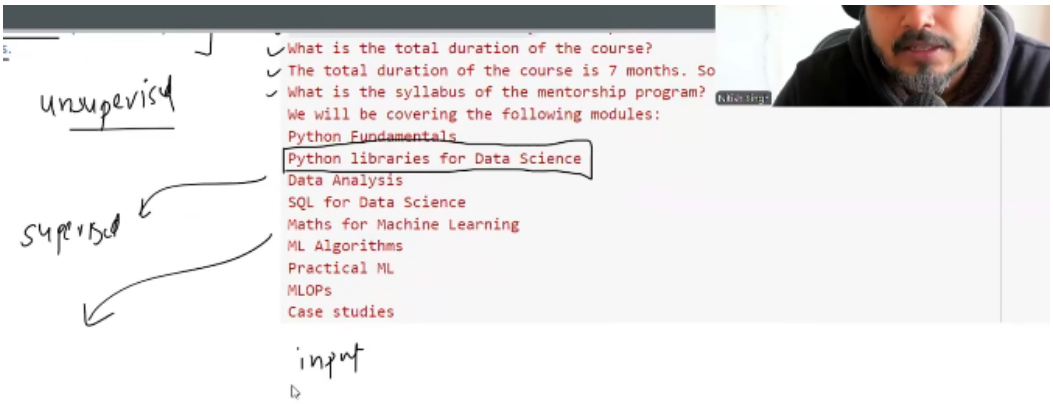
- Take note of shapes of input and output via layers

https://colab.research.google.com/drive/1JO7PGLkj8P7Jy8KM3rBHop6jaUruxvQB

Predicting the next word

- mobile keyboards

Language Modeliing ist the task of prediciting the next word in a seqeucen based on the context of previous words.



- But how do you train on a dataset of words? - unsupervised task ko supervised convert kro -
  - Iss data set mai seperate all sentences (Input : first word ; Output : second word) ; (input : first+ second word ; output - thrid word)
  - but LSTM cant understand engligh - create vocab like before.
- Will use nltk for tokenization (word_tokenize from nltk.tokenize)

LSTM Blog - https://colah.github.io/posts/2015-08-Understanding-LSTMs/

https://colab.research.google.com/drive/1cC0O0YDObHfR_078B3ZPXSPTMu13ykGf