

Answer each question in Matlab or Python

Python users: you may use numpy (import as np) and pandas (import as pd); if you use other modules, let me know what they are and how you import them.

1) Write a function `magnitude` that takes in a vector/list/numpy-array and outputs the magnitude of the vector.

Assume we have a matrix/list/numpy-array called `Data` which contains 1000 data points, each with 6 features and 1 classifier label.

For matlab/numpy, `Data` has 1000 rows and 7 columns (last column is label). For python list, `Data` is a 1000 element list, with each element being a 7-element list.

2) Write code to separate `Data` into two variable `DataFeats` and `DataLabels`, a matrix of 1000 x 6 features and a vector of 1000 labels respectively.

3) Presume there is a classifier function called `classify` that takes in the features for a single data point and outputs the corresponding class. Write code to compute the accuracy of `classify` function's output across the 1000 data points.

(Classify syntax: `classify(featureVec)` ).