



☆ Classify the Trade

Classify new trades based on their similarity to old trades.

Every trade has 3 features: profit, risk, and latency.

You have a list of old trades. Every old trade has been labeled with a color.

You have a list of new trades. New trades are unlabeled.

Your task is to create an algorithm that uses the old trades to predict the labels of new trades.

Input Format

A list of feature vectors, representing the old trades.

A list of labels, corresponding to each of the old trades.

A list of feature vectors, representing the new trades.

Constraints

Features are floats in the interval $[0, 100]$.

Labels are strings.

Classes may be imbalanced (e.g. 'red' trades may greatly outnumber 'green' trades).

Classes may not be linearly separable in 3 dimensions.

The data set is small:

The number of old trades is less than 100.

The number of new trades is less than 10.

Output Format

A list of labels.

Sample Input

```
trades = [[99.0, 5.0, 20.0], # green (good trade)
          [95.0, 15.0, 10.0], # green (good trade)
          [5.0, 80.0, 40.0], # red (bad trade)
          [3.0, 92.0, 20.0]] # red (bad trade)
```

```
labels = ['green', 'green', 'red', 'red']
```

```
new_trades = [[90.0, 10.0, 15.0],
               [10.0, 98.0, 50.0]]
```



['green', 'red']



Techniques

We're just looking for a simple, moderately effective, solution.

Test cases can be passed with fewer than 30 lines of code.

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YOUR ANSWER

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Original code

Python 2

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⚙

```
1  #!/bin/python
2
3  import sys
4  import os
5
6
7  # Complete the function below.
8
9
10 def classify(trades, labels, new_trades):
11     pass
12
```





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```
15
16 _trades_rows = 0
17 _trades_cols = 0
18 _trades_rows = int(raw_input())
19 _trades_cols = int(raw_input())
20
21 _trades = []
22 ▼ for _trades_i in xrange(_trades_rows):
23     _trades_temp = map(float,raw_input().strip().split(' '))
24     _trades.append(_trades_temp)
25
26
27 _labels_cnt = 0
28 _labels_cnt = int(raw_input())
29 _labels_i=0
30 _labels = []
31 ▼ while _labels_i < _labels_cnt:
32     try:
33         _labels_item = raw_input()
34     except:
35         _labels_item = None
36     _labels.append(_labels_item)
37     _labels_i+=1
38
39
40
41 _new_trades_rows = 0
42 _new_trades_cols = 0
43 _new_trades_rows = int(raw_input())
44 _new_trades_cols = int(raw_input())
45
46 _new_trades = []
47 ▼ for _new_trades_i in xrange(_new_trades_rows):
48     _new_trades_temp = map(float,raw_input().strip().split(' '))
49     _new_trades.append(_new_trades_temp)
50
51 res = classify(_trades, _labels, _new_trades);
52 for res_cur in res:
53     f.write( str(res_cur) + "\n" )
54
55 f.close()
56
```

Line: 2 Col: 1

☐ Test against custom input

Run Code

Submit code & Continue

(You can submit any number of times)



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