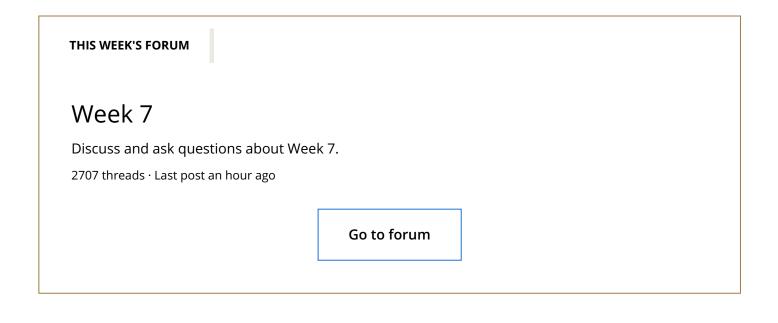
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```
Q
```

```
% ====== findClosestCentroids() =======
    X = reshape(sin(1:50), 10, 5)
 2
 3
    cent = X(7:10,:);
    idx = findClosestCentroids(X, cent)
 5
 6
    % result
 7
    idx =
 8
       1
 9
       2
10
       3
       4
11
12
       4
13
       1
14
       1
       2
15
       3
16
17
       4
18
19
    % additional information
    % these are the "distances" for each example, computed as the
20
    % of the squares of the differences for each feature.
21
22
    debug> dist
23
    dist =
24
25
        0.18685
                   1.26617
                              6.26061
                                        10.23971
                   0.21768
26
        3.68554
                              1.31858
                                         5.63745
27
        9.03781
                   3.83809
                              0.19602
                                         1.12150
28
       10.66224
                   8.13823
                              3.26444
                                         0.18322
29
                              7.60682
        6.96941
                   9.06864
                                         3.58933
30
        2.09490
                   6.51432
                              9.97120
                                         8.94869
31
        0.00000
                   2.30339
                              7.66348
                                        10.81361
32
        2.30339
                   0.00000
                              2.49799
                                         7.16213
33
        7.66348
                   2.49799
                              0.00000
                                         2.12753
34
       10.81361
                   7.16213
                              2.12753
                                         0.00000
35
36
37
    % ====== computeCentroids() ========
38
    X = reshape([1:24], 8, 3);
39
    computeCentroids(X, [1 1 3 3 4 4 2 2]',4)
40
41
    % result
42
   ans =
43
        1.5000
                  9.5000
                           17.5000
44
        7.5000
                 15.5000
                           23.5000
45
        3.5000
                 11.5000
                           19.5000
46
        5.5000
                 13.5000
                           21.5000
47
    % ====== pca() =======
48
49
    [U, S] = pca(sin([0 1; 2 3; 4 5]))
50
51
    % result
52
    U =
53
      -0.65435 -0.75619
54
      -0.75619
                0.65435
55
56
    S =
57
    Diagonal Matrix
58
       0.79551 0
59
       0
                0.22019
60
```

```
61
   % ====== projectData() ======
64
65
   % result
66
   ans =
              5.12021
67
      1.68703
68
      5.50347 -0.24408
69
      4.26005 -5.38397
70
     -0.90004 -5.57386
71
72
  % ====== recoverData() =======
73
   Q = reshape([1:15],5,3);
74
   recoverData(Q, magic(5), 3)
75
76
  % result
77
   ans =
78
                          394
      172
           130
                183
                     291
79
           165 206
                          448
      214
                     332
80
      256 200
                229
                     373
                          502
81
      298
           235
                252
                     414
                          556
82
      340
           270
                275
                     455
                          610
```

The random initialization of the centroids is not required to pass the grader for ex7, but the compressed image from running ex7.m will come out as uniform grey if you forget to implement *kMeansInitCentroids*. Note that the code needed is explicitly given in ex7.pdf.

	Earliest	Тор	Most Recent	
S M	Tom Mosher Mentor · 2 years ago Update: Nov: 2016:			•
	Re-formatted the test cases into 1 Upvote Reply	one text box.		
E M	Tom Mosher Mentor · 2 years ago Update: Sept 2016:			*
	Modified the 2nd test case for fi features than the ex7 test case, previous test case used the sam	but fewer than the submit $arepsilon$	grader uses. The	

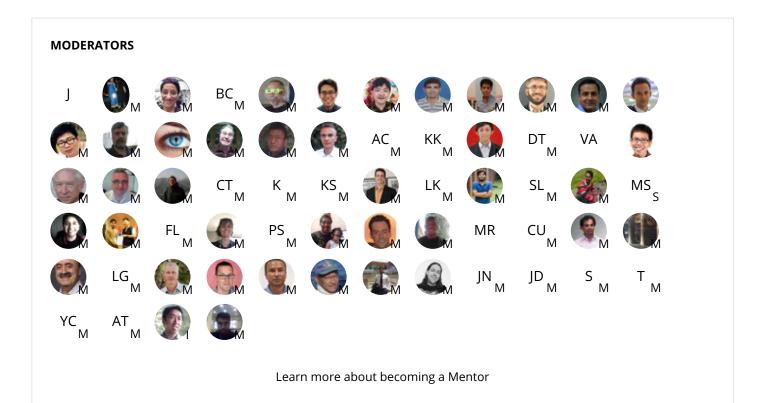
compression example in ex7, so the test case didn't catch errors due to assuming the the number of features will is the larger than 3.

1 >

Q

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