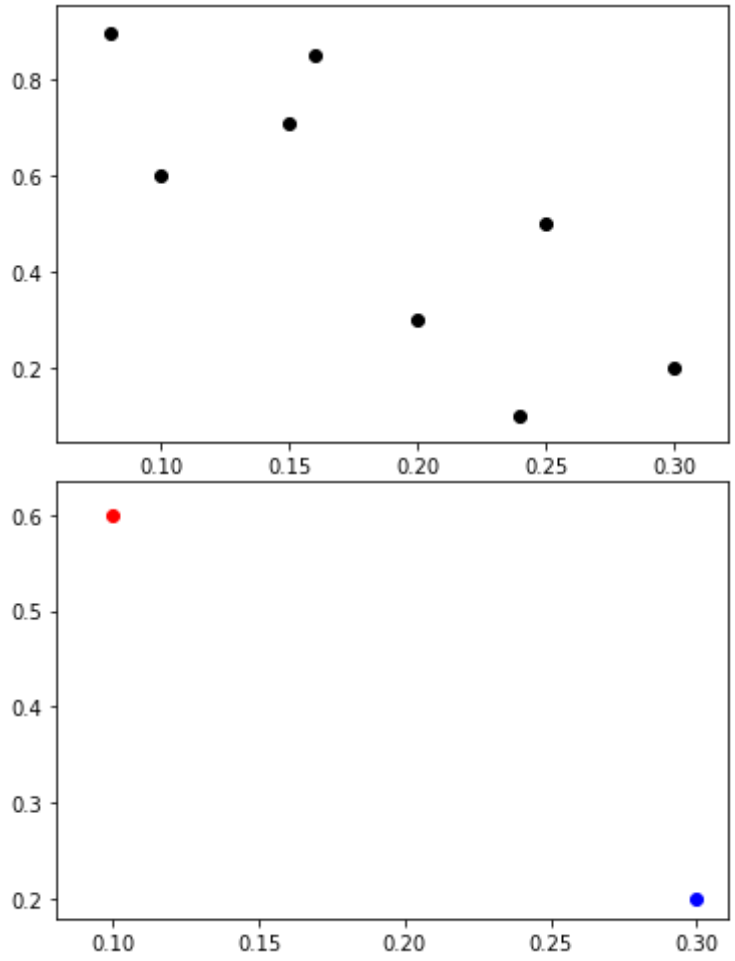
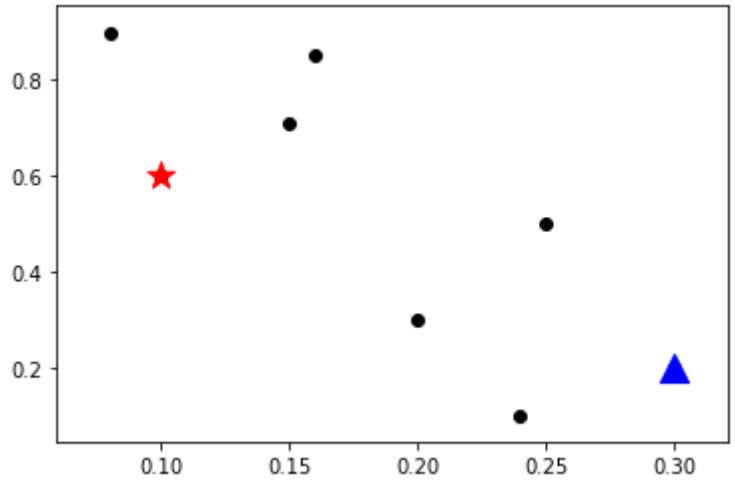
# Output of K-Means Clustering

_____Using Lyb Function_____

```
[[0.1  0.6 ]
 [0.15 0.71]
 [0.08 0.9 ]
 [0.16 0.85]
 [0.2  0.3 ]
 [0.25 0.5 ]
 [0.24 0.1 ]
 [0.3  0.2 ]]
```

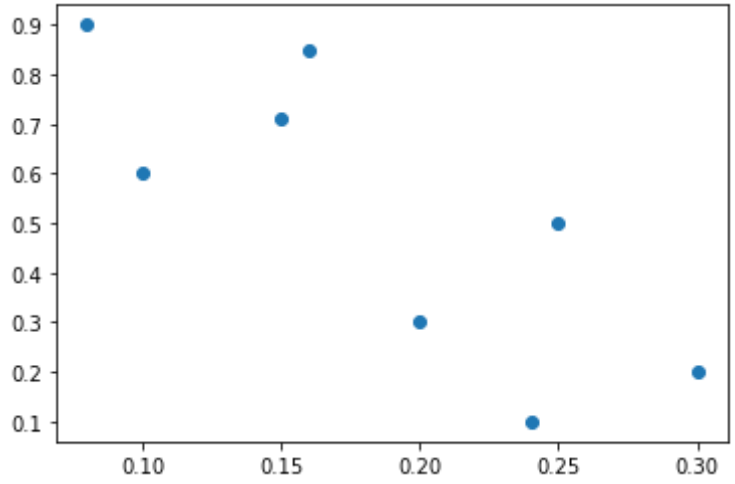



```
[[0.1 0.3]
 [0.6 0.2]]
```




[1 1 1 1 0 0 0 0]
[0]
No of population around cluster 2: 3
Previous value of m1 and m2 is:
M1== [0.1 0.3]
M1== [0.6 0.2]
updated value of m1 and m2 is:
M1== [0.2475 0.275 ]
M1== [0.1225 0.765 ]

_____Using Lyb Function_____




Iteration 0 : m1= [0.1, 0.6] m2= [0.3, 0.2]
cluster 1 [[0.1, 0.6], [0.15, 0.71], [0.08, 0.9], [0.16, 0.85], [0.25, 0.5]]
CLuster 2: [[0.2, 0.3], [0.24, 0.1], [0.3, 0.2]]
m1 = [0.148 0.712] m2= [0.24666667 0.2 ]
Difference : 0.05600000000000001

Iteration 1 : m1= [0.148 0.712] m2= [0.24666667 0.2 ]
cluster 1 [[0.1, 0.6], [0.15, 0.71], [0.08, 0.9], [0.16, 0.85]]
CLuster 2: [[0.2, 0.3], [0.25, 0.5], [0.24, 0.1], [0.3, 0.2]]
m1 = [0.1225 0.765 ] m2= [0.2475 0.275 ]
Difference : 0.06400000000000002

Iteration  2  : m1= [0.1225 0.765 ]  m2= [0.2475 0.275 ]
cluster 1 [[0.1, 0.6], [0.15, 0.71], [0.08, 0.9], [0.16, 0.85]]
CLuster 2:  [[0.2, 0.3], [0.25, 0.5], [0.24, 0.1], [0.3, 0.2]]
m1 =  [0.1225 0.765 ]  m2= [0.2475 0.275 ]
Difference  :  0.0

Cluster 1 centroid : m1 =  [0.1225 0.765 ]
CLuster 1 points:  [[0.1, 0.6], [0.15, 0.71], [0.08, 0.9], [0.16, 0.85]]
Cluster 2 centroid : m2 =  [0.2475 0.275 ]
CLuster 2 points:  [[0.2, 0.3], [0.25, 0.5], [0.24, 0.1], [0.3, 0.2]]