

## Feedback — Optional Programming Assignment Quiz

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You submitted this quiz on **Tue 19 May 2015 10:30 AM PDT**. You got a score of **8.00** out of **8.00**.

### Question 1

Cluster the quiz\_A.data using k-means method and set  $K = 2$ . Based on quiz\_A.ground, what is the purity?

Your Answer	Score	Explanation
<input type="radio"/> 0.427		
<input type="radio"/> 0.569		
<input type="radio"/> 0.820		
<input checked="" type="radio"/> 0.973	✓ 1.00	
Total	1.00 / 1.00	

### Question 2

Cluster the quiz\_A.data using k-means and kernel k-means methods with  $K = 2$ . Based on Purity and NMI, which method is better?

Your Answer	Score	Explanation
<input checked="" type="radio"/> K-means	✓ 1.00	
<input type="radio"/> Kernel k-means		
<input type="radio"/> The two methods are indifferent		
Total	1.00 / 1.00	

#### Question Explanation

K-means has higher purity and NMI than kernel K-means.

### Question 3

Cluster the quiz\_B.data using k-means and kernel k-means methods with  $K = 2$ . Based on Purity, which method is better?

Your Answer	Score	Explanation
<input checked="" type="radio"/> Kernel k-means	✓ 1.00	
<input type="radio"/> The two methods are indifferent		
<input type="radio"/> K-means		
Total	1.00 / 1.00	

#### Question Explanation

Kernel K-means has higher purity and NMI than K-means.

### Question 4

Cluster the quiz\_B.data using k-means with  $K = 2$ ,  $K = 3$ ,  $K = 4$ , and  $K = 5$ . Which  $K$  achieves the highest purity?

Your Answer	Score	Explanation
<input type="radio"/> $K = 5$		
<input type="radio"/> $K = 3$		
<input type="radio"/> $K = 4$		
<input checked="" type="radio"/> $K = 2$	✓ 1.00	
Total	1.00 / 1.00	

#### Question Explanation

When  $K = 2$ , the purity is largest with purity = 0.745.

## Question 5

Cluster the quiz\_C.data using k-means with  $K = 2$ . What is the NMI?

Your Answer	Score	Explanation
<input type="radio"/> 0.4575		
<input checked="" type="radio"/> 0.0006507	✓ 1.00	
<input type="radio"/> 0.1201		
<input type="radio"/> 0.006507		
Total	1.00 / 1.00	

## Question 6

Cluster the quiz\_C.data using k-means and kernel k-means methods. Based on NMI, which method is better?

Your Answer	Score	Explanation
<input checked="" type="radio"/> Kernel k-means	✓ 1.00	
<input type="radio"/> K-means		
<input type="radio"/> The two methods are indifferent		
Total	1.00 / 1.00	

### Question Explanation

Kernel K-means has higher purity and NMI than K-means

## Question 7

Cluster the seed.data using kernel k-means methods with  $K = 2$ ,  $K = 3$ , and  $K = 4$ . Based on NMI, which  $K$  is best?

**Your Answer****Score****Explanation**☐ K = 2☐ K = 4☒ K = 3

1.00

Total

1.00 / 1.00

**Question Explanation**

K = 3 achieves the best NMI for kernel K-means.

## Question 8

Cluster the seed.data using k-means and kernel k-means methods with K = 3. Based on Purity, which method is better?

**Your Answer****Score****Explanation**☐ Kernel k-means☒ K-means

1.00

☐ The two methods

Total

1.00 / 1.00

**Question Explanation**

K-means has higher purity than kernel k-means