

## Exercise 12: Which clusters are closest?

In the video, you learned that the linkage method defines how the distance between clusters is measured. Let's compare now two different linkage methods:

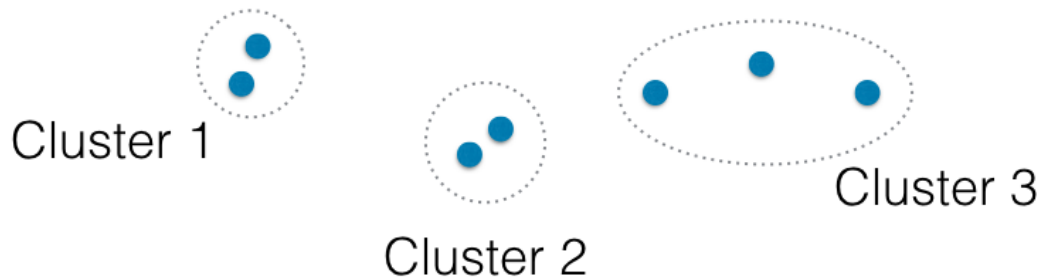
- In **complete** linkage, the distance between clusters is the distance between the *furthest* points of the clusters.
- In **single** linkage, the distance between clusters is the distance between the *closest* points of the clusters.

Consider the three clusters in the following diagram, and answer the question below.

From the course *Transition to Data Science*. [Buy the entire course for just \\$10](#) for many more exercises and helpful video lectures.

```
In [2]: # some magic for showing the image
        from IPython.display import Image
        Image("../images/cluster_linkage_riddle.png")
```

Out [2]:



### Question:

Which of the following statements are true?

- A. In single linkage, cluster 3 is the closest to cluster 2.
- B. In complete linkage, cluster 1 is the closest to cluster 2.

**Answer: both A and B are true.**

```
In [ ]:
```