# Clustering Analysis

1. What is the difference between agglomerative and divisive clustering?

2. What is the difference between hierarchical and non-hierarchical clustering?

3. How do we determine the appropriate number of clusters? Give two different visualization methods that are used to display the outcome of a cluster analysis.

4. In the context of hierarchical cluster analyses, distinguish between agglomerative clustering and divisive clustering.

5. What is a vertical icicle plot used for? Give a brief dscription, supporting your answer with sketches.

6. Explain why squared Euclidean Distance may be used in preference to Euclidean Distance.

7. Compute the squared Euclidean distance and the Manhattan (a.k.a. city block) distance between the following points A and B.

$$A = \{2, 5, 1, 7\}$$

$$B = \{1, 6, 3, 6\}$$

8. What is a dendrogram? What does does a dendrogram depict?

9. What is the purpose of a cluster analysis?

10. What is two-step clustering analysis?

11. Compare and contrast any two linkage methods.

12. Explain the difference between Ward's method and K-means clustering.

13. Discriminant Analysis is very similar to Clustering Analysis, but one key difference. Explain this difference.

14. What is the difference between a linkage method and a similarity measure? Discuss the purpose of both.

15. Compare and contrast any two linkage methods.

16. Discus how to determine the appropriate number of clusters.