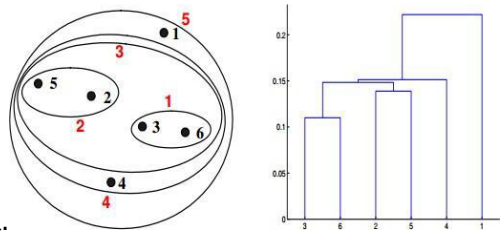
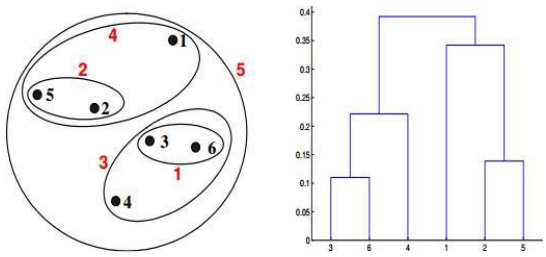
Worksheet-Set 3: Machine learning Assignment

Answer keys for questions from Q1 to Q12:

Question Number	Answer keys
Q1:	d. All of the above
Q2:	d. None
Q3:	c. Reinforcement learning and Unsupervised learning
Q4:	b. The tree representing how close the data points are to each other
Q5:	d. None
Q6:	c. k-nearest neighbour is same as k-means
Q7:	d. 1, 2 and 3
Q8:	a. 1 only
Q9:	a. 2
Q10:	b. Given a database of information about your users, automatically group them into different market segments.
Q11:	a. 
Q12:	b. 

Q13. What is the importance of clustering?
Clustering is a technique used in data analysis and machine learning that involves dividing data into groups, or clusters, based on their similarity. This is important because it can help identify underlying patterns in the data and group similar items together. This can be useful for a variety of purposes, such as understanding the relationships between different items in the data or for making predictions about future data. Additionally, clustering can be used to reduce the dimensionality of the data, which can make it easier to visualize and analyze.

Q13. How can I improve my clustering performance?

- **Using a more advanced clustering algorithm**. Different clustering algorithms have different strengths and weaknesses, so choosing the right algorithm for data can make a big difference in performance.
- **Using more data**. Clustering algorithms typically perform better with more data, so using a larger dataset can improve performance.
- **Pre-process data**. Cleaning and pre-processing data can help improve the performance of clustering algorithm by removing noise and ensuring that the data is in a suitable format for the algorithm to work with.
- **Choosing right number of clusters**. The performance of clustering algorithm can be sensitive to the number of clusters we choose. It is important to choose the right number of clusters for data, as too few or too many clusters can lead to poor performance.
- **Fine-tune the parameters of clustering algorithm.** Most clustering algorithms have a number of parameters that can be adjusted to improve performance. Fine-tuning these parameters can help improve the performance of clustering algorithm.