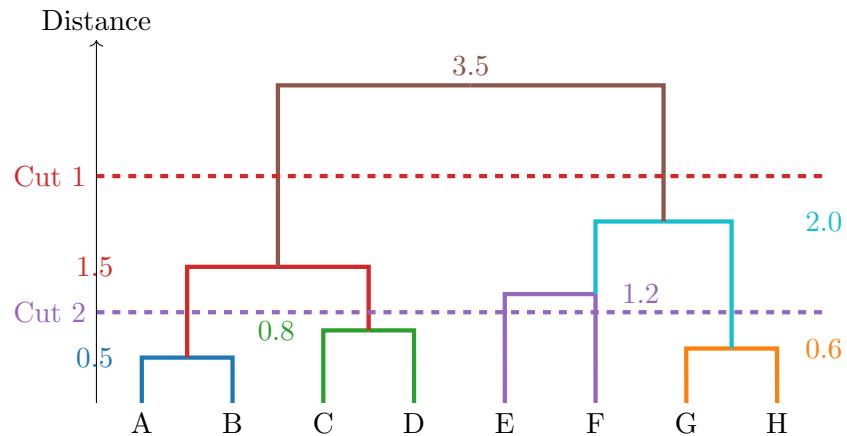


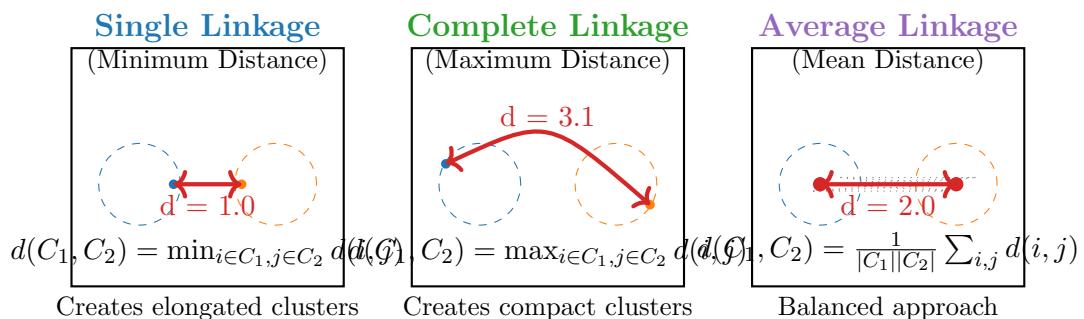
Advanced Discovery: Hierarchical Clustering

Building the Tree of Relationships

The Dendrogram: A Family Tree of Data

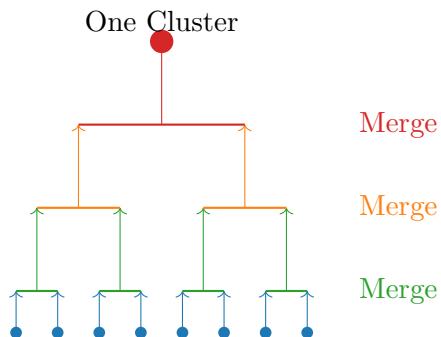


Three Linkage Methods: Different Stories

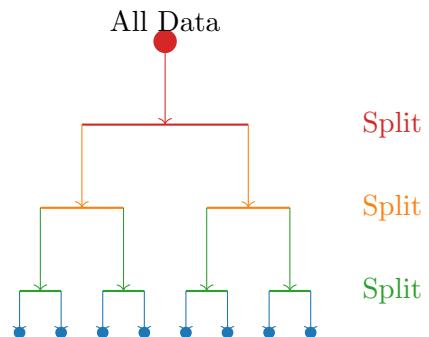


Agglomerative vs Divisive: Two Strategies

Agglomerative (Bottom-Up)



Divisive (Top-Down)



Distance Matrix: The Foundation

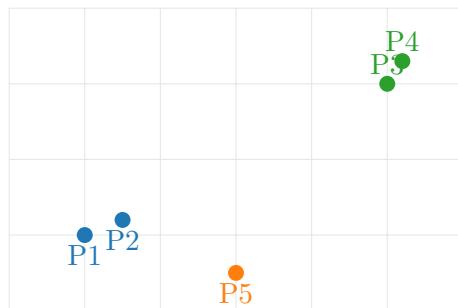
	A	B	C	D	E
A	0	2	6	10	9
B	2	0	5	9	8
C	6	5	0	4	7
D	10	9	4	0	5
E	9	8	7	5	0

→ Merge A-B ($d=2$)

→ Then C-D ($d=4$)

	AB	CD	E
AB	0	5.5	8.5
CD	5.5	0	6
E	8.5	6	0

Discovery Challenge: Build Your Tree



Draw the dendrogram using:

Single linkage: _____

Complete linkage: _____

Key Insight: No need to choose k - cut the tree at any height!