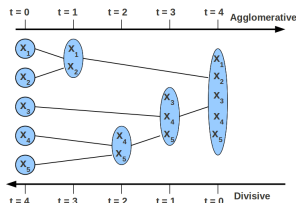


Hierarchical Clustering



- **Agglomerative (bottom-up) Clustering**

- 1 Start with each example in its own **singleton cluster**
- 2 At each time-step, greedily **merge** 2 most similar clusters
- 3 Stop when there is a single cluster of all examples, else go to 2

- **Divisive (top-down) Clustering**

- 1 Start with all examples in the same cluster
- 2 At each time-step, remove the “outsiders” from the **least cohesive cluster**
- 3 Stop when each example is in its own singleton cluster, else go to 2

- Agglomerative is more popular and simpler than divisive (but less accurate)