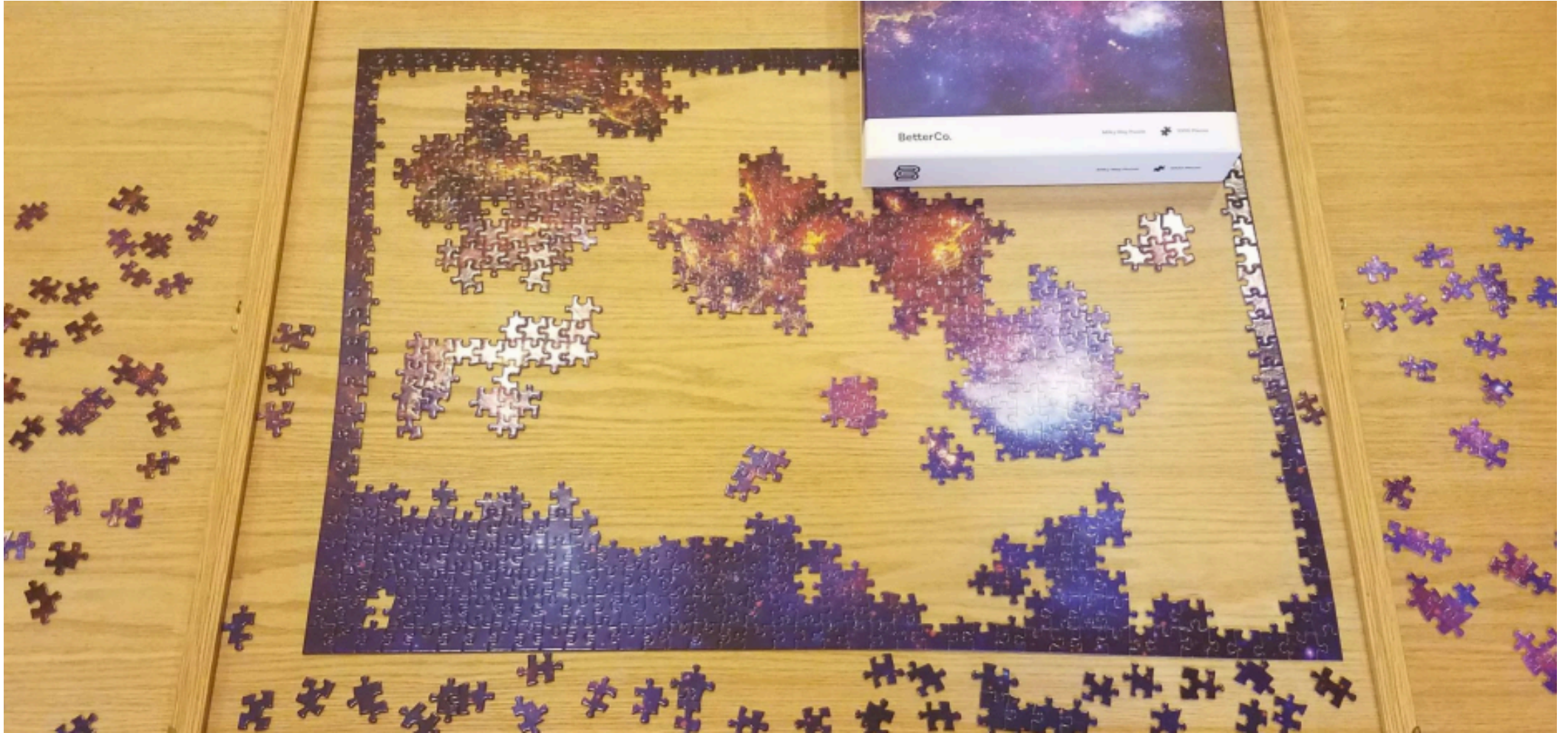


Hierarchical Clustering & Cluster Interpretability

School Connect: Intro to DS & AI

Vivek Sivaramakrishnan
Indian Institute of Technology, Madras

Jigsaw

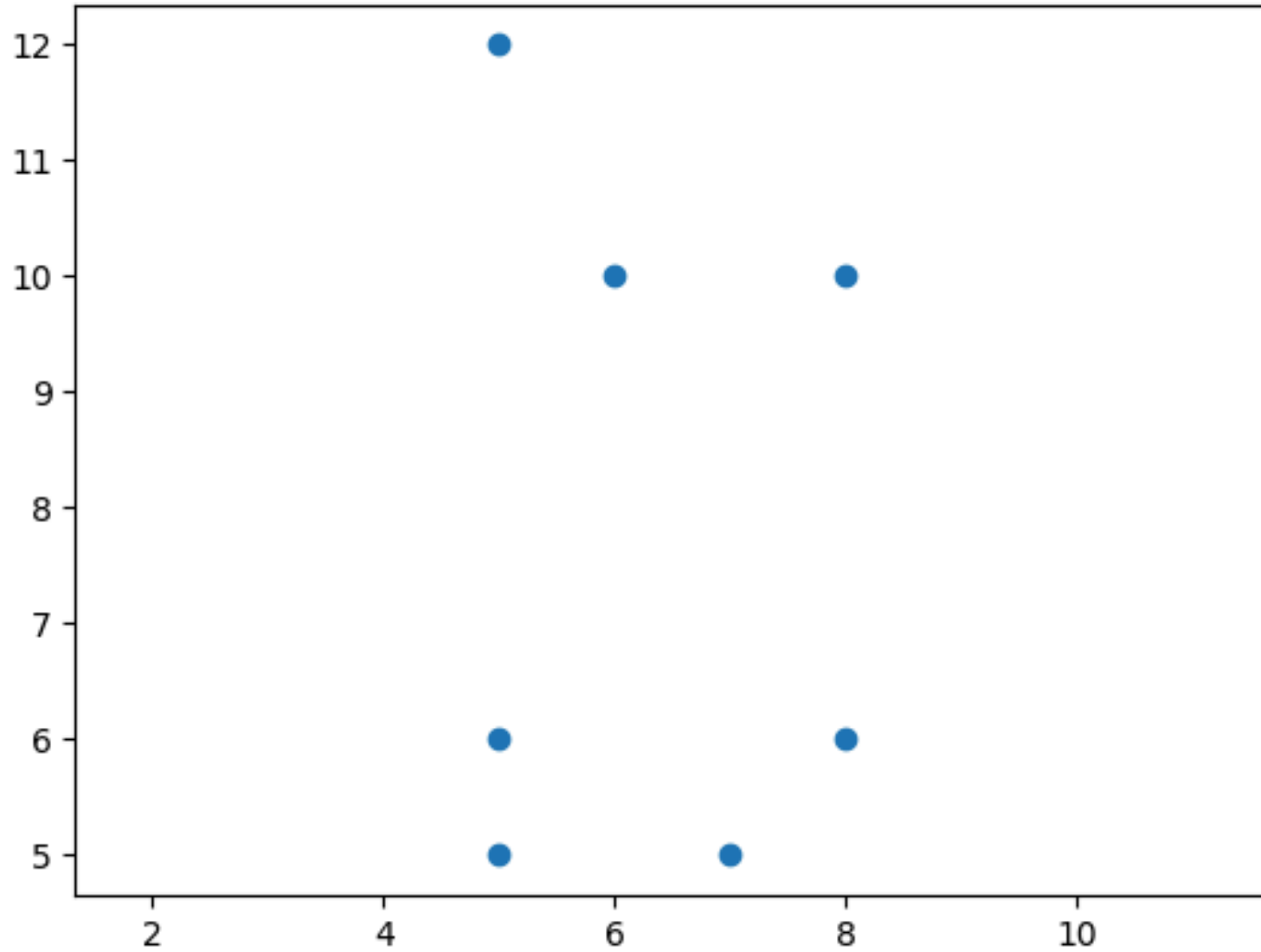


How would you solve a Jigsaw Puzzle?

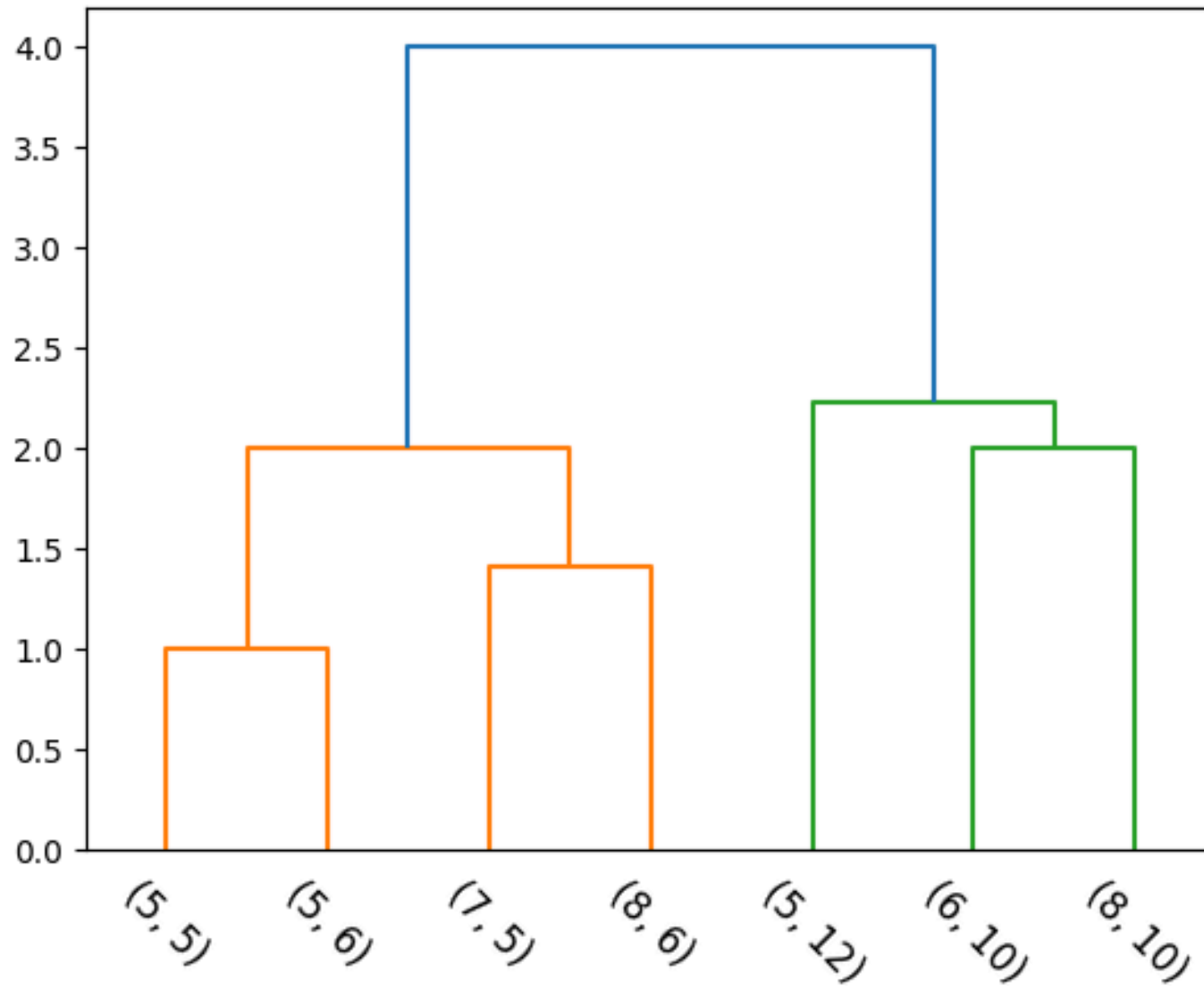
Typical Process

- Begin by trying to identify 2 pieces that are *similar* to each other and combine them (cluster).
- Continue this process of combining pieces/clusters till completion.
- This is *informally* the process of Hierarchical Clustering!

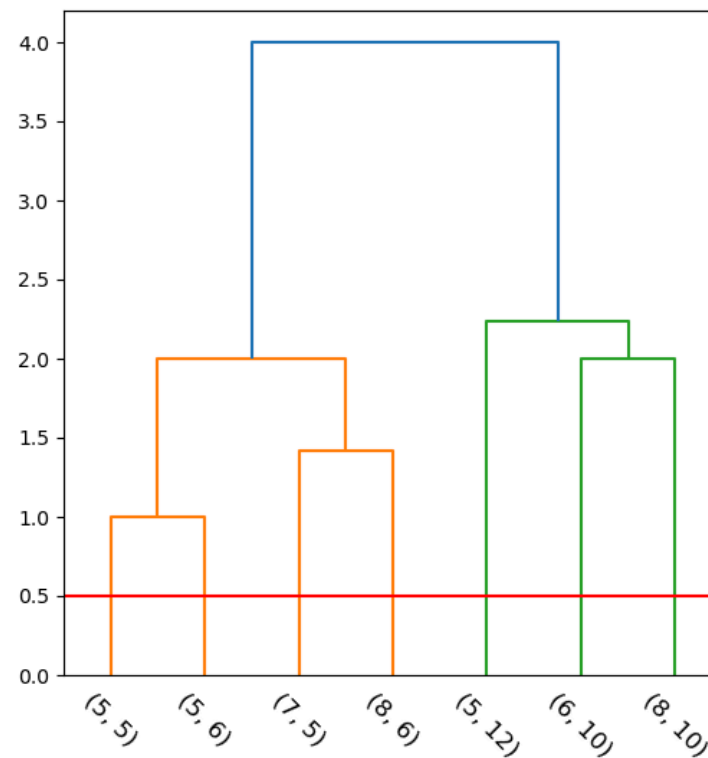
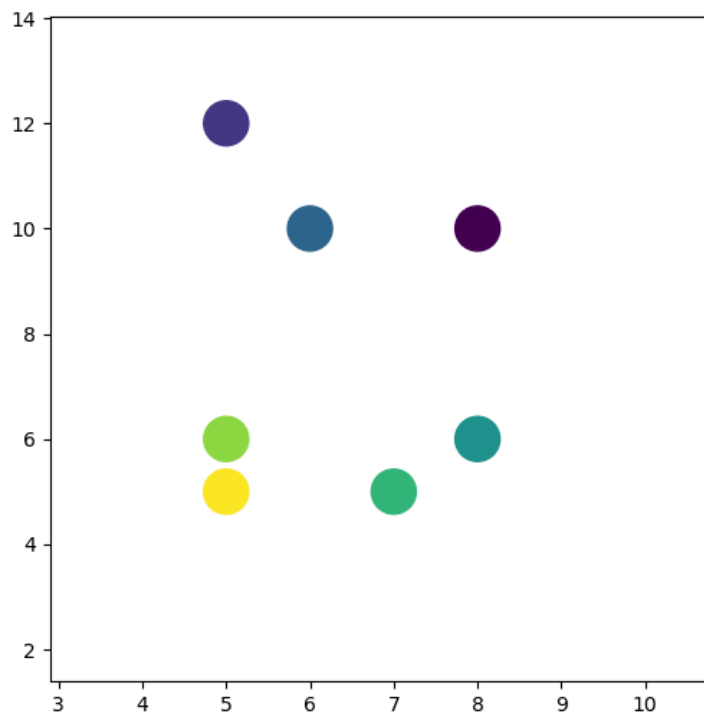
Example



✧ Dendrograms ✧



Clusters from Dendrograms ✂

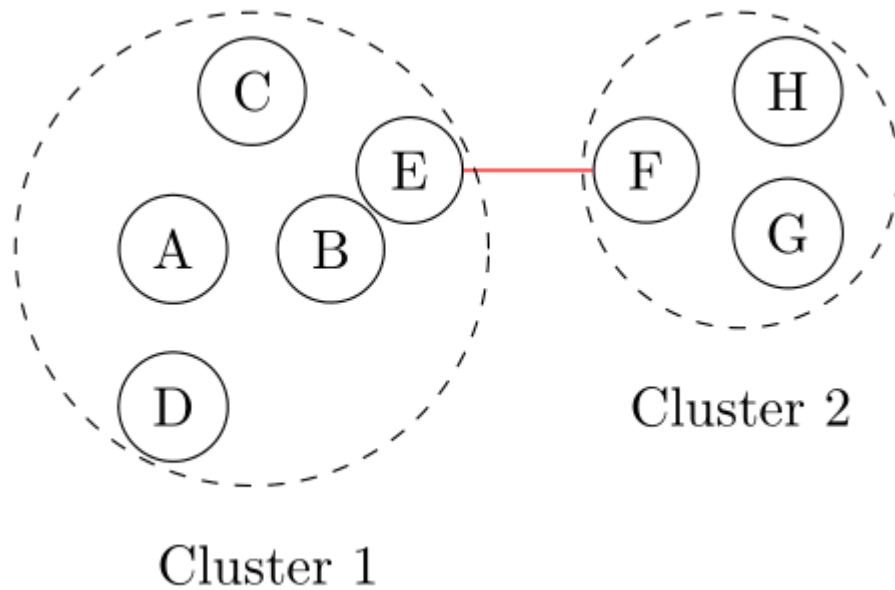


☒ Once ☐ Loop ☐ Reflect

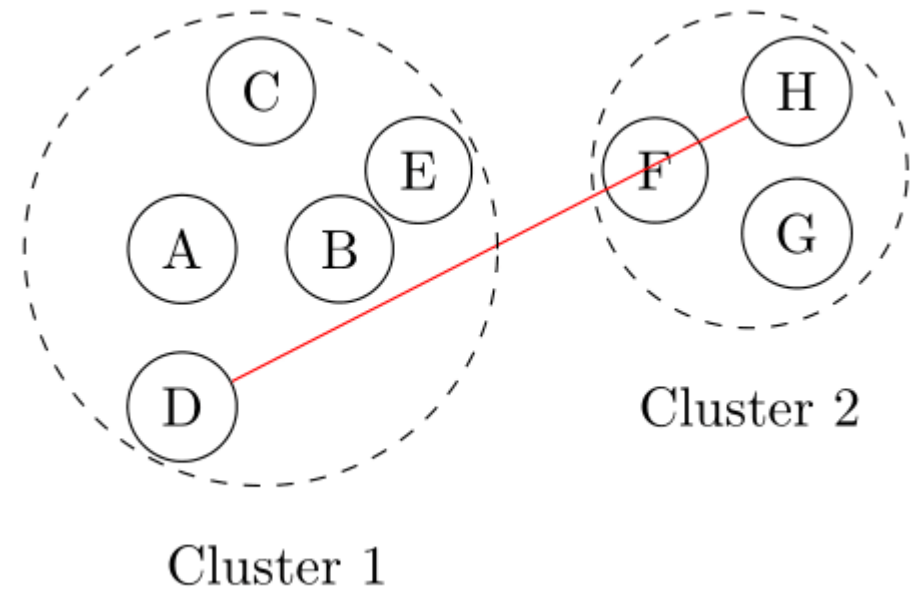
Some terms

- The clustering we just demonstrated is *Agglomerative* (Bottom-Up) using *Single Linkage*.

Single Linkage



Complete Linkage



- The linkages require a *Distance Matrix*.