Maximum Matching

Can every puppy be adopted?

\[ a \rightarrow b \leftrightarrow c \rightarrow d \rightarrow e \]

\[ \text{Tree: no } \]

\[ c, d : \text{only one house but two dogs} \]

\[ \text{max one dog per house.} \]
Maximum Matching

- In general: complicated algorithms, solvable
- In a tree: less complicated algorithm, solvable

Tree: \( n-1 \) edges \( \sum \delta(v) = 2(n-1) \)

Base: \( n \leq 1 \), return zero

Leaf First: pick a leaf. Match w/ neighbor remove both. Recurse on all components
Independent Set

Find an independent set of size 4 in this graph:
Max Independent Set On Tree
Coming Soon

- Tonight!
  - Interval Coloring
  - Wrapping up Greedy Algorithms
- Monday in lecture
  - Closest pair of points D&C
- Monday evening
  - Dynamic Programming Review
  - Problems TBD