

A different solution

You want to partition the set of people into subsets so that every two people in any subset both like each other, and make the number of subsets as small as possible.

Solution: The graph $G = (V, E)$ is defined by

- ▶ V is the set of people in the class
- ▶ E contains (v, w) if and only if v doesn't like w or w doesn't like v (i.e., they don't like each other)

We are looking for a partition of V into a small number of sets so that every one of the sets is an independent set.

Note - this is the same thing as finding a minimum **vertex coloring**.