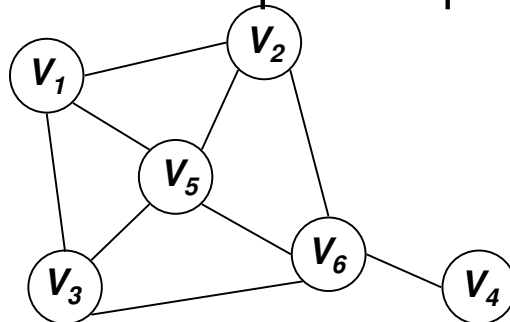


### Canonical Example: Graph Coloring



- Consider  $N$  nodes in a graph
- Assign values  $V_1, \dots, V_N$  to each of the  $N$  nodes
- The values are taken in  $\{R, G, B\}$
- Constraints: If there is an edge between  $i$  and  $j$ , then  $V_i$  must be different of  $V_j$