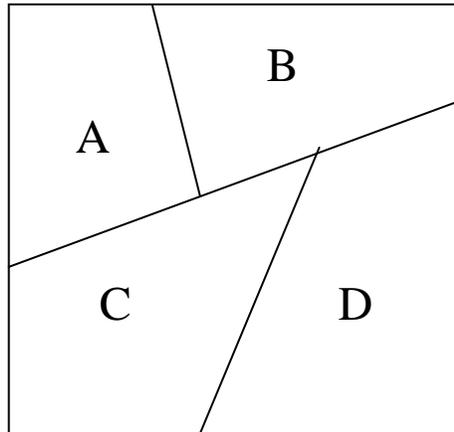


Consider the map in the following picture



It can be represented by the CSP with the set of variables  $\{A, B, C, D\}$ .

The domain for each variable is  $\{\text{red, green, blue}\}$ .

The set of constraints is  $\{A \neq B, A \neq C, B \neq C, B \neq D, D \neq C\}$

This can be represented by the constraint graph

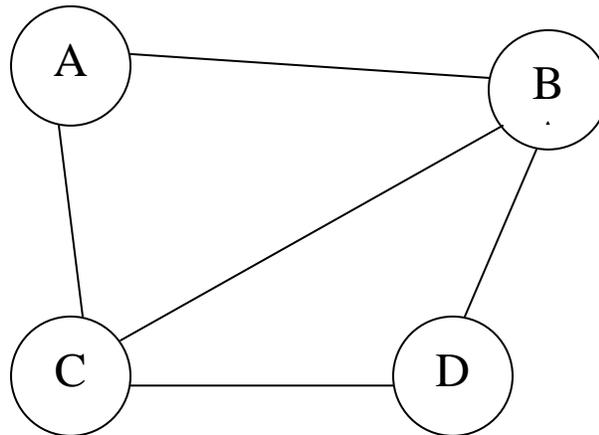
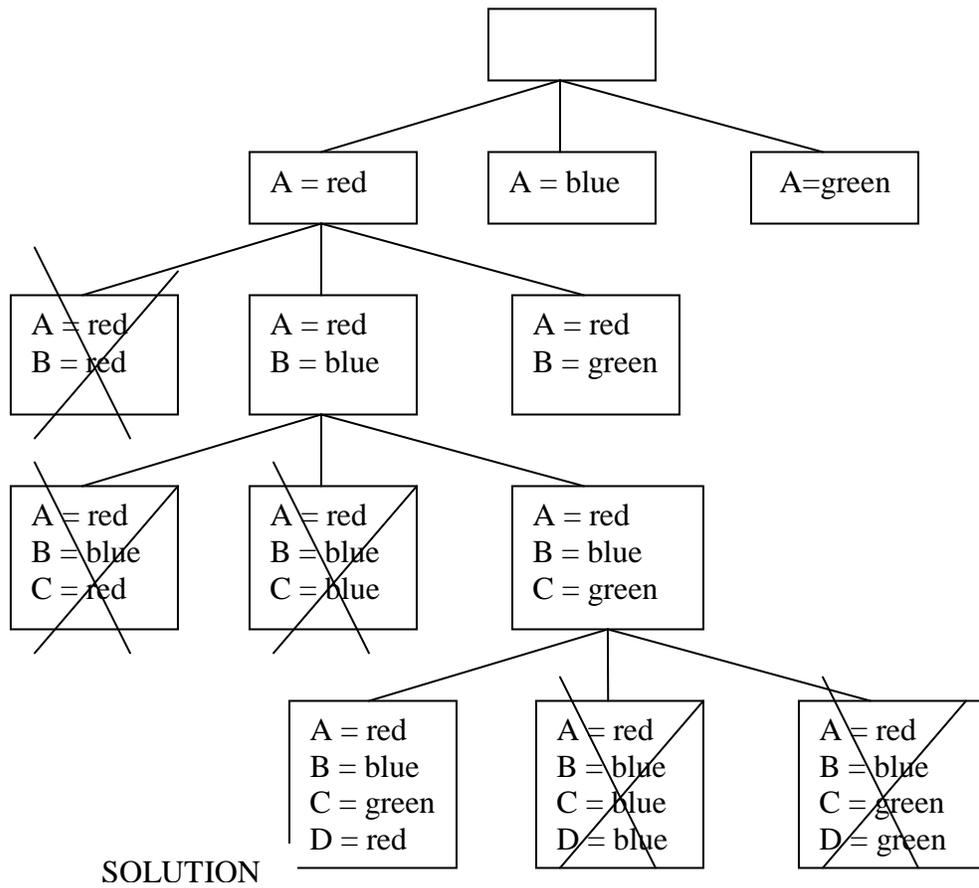
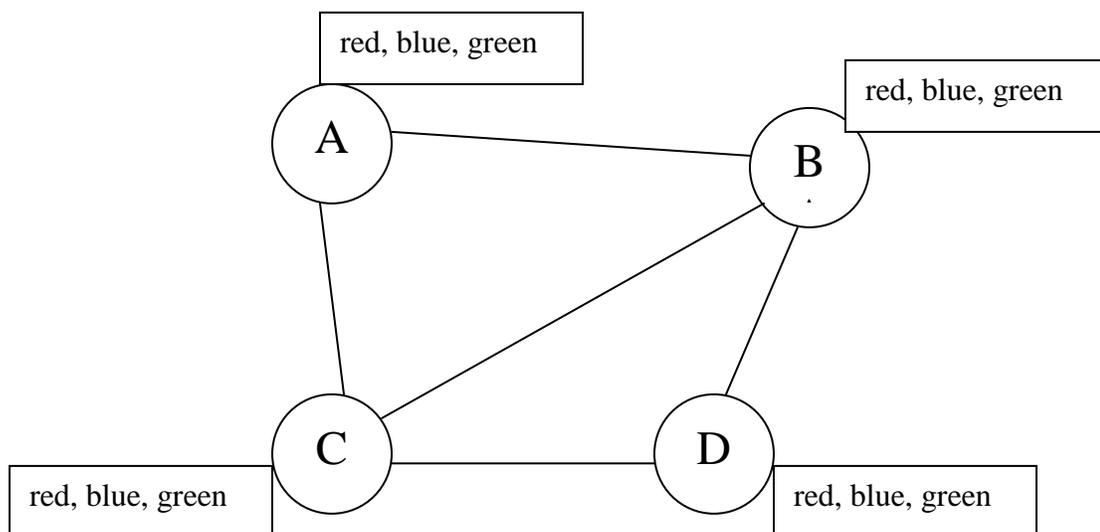


Illustration of backtracking search for solving the map-coloring problem:



**Arc consistency** – the following graph is arc consistent



However, the following one (after selecting the value red for A) is no longer arc consistent (for the value *red* of B there is no possible value for A which is consistent with *red*)

