EXERCISE (ARC CONSISTENCY)

CSP: arc-consistency

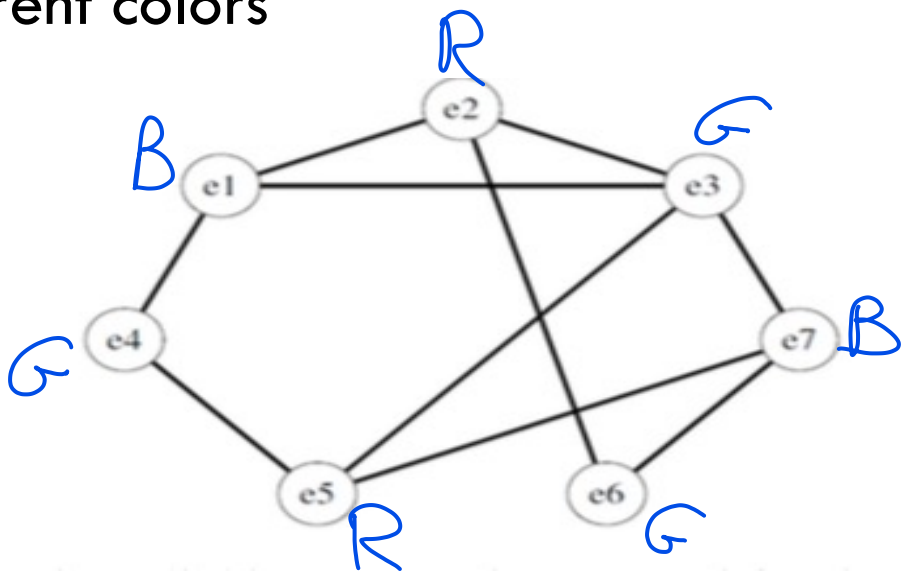
Consider a map coloring problem that can be modelled via a CSP with

- Variables: e1, e2, e3, e4, e5, e6, e7
- Domains:
  - Domain of e1, e3, e4, e5, e6 is { R , G , B }
  - Domain of e2 = { R }
  - Domain of e7 = { B }
- Constraints: specified by the following constraint graph

CSP: arc-consistency

- Constraints: specified by this constraint graph.
  - There is an arc between two variables if they must have different colors

$e_1 = B$
$e_2 = R$
$e_7 = B$
$e_3 = G$
$e_5 = R$
$e_4 = G$
$e_6 = G$



- Apply arc-consistency and show how the domains change