03-C-04

Triangulation

Fisk's Proof

- Pigeon-Hole Principle

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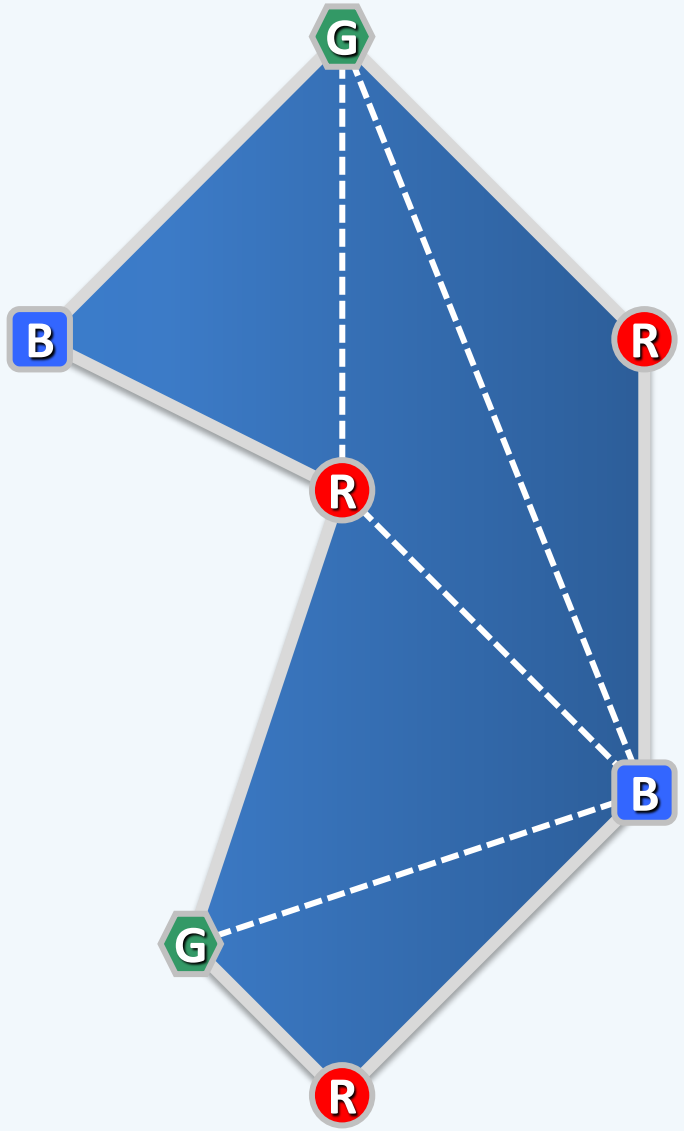
- $|\mathcal{R}| + |\mathcal{G}| + |\mathcal{B}| = n$
- Here we have
  - 3 subsets (holes) and
  - n vertices (pigeons)
- At least one of the subsets contains

  $\boxed{\text{no more than } \lfloor n/3 \rfloor}$ vertices



- In this example

$$|\mathcal{R}| + |\mathcal{G}| + |\mathcal{B}|$$

$$= 3 + 2 + 2$$

$$= 7$$

- So either $\mathcal{G}$ or $\mathcal{B}$ will work