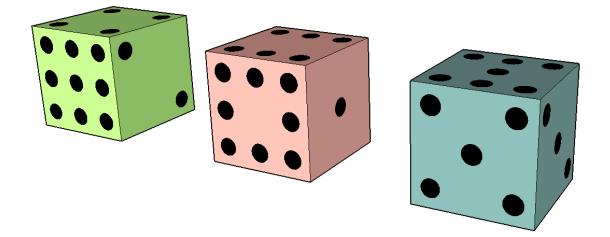


## **Non-transitive Dice**

Here are three dice that are used to play a game for two players:



The red die has the numbers  $\{1, 1, 6, 6, 8, 8\}$ 

The green die has the numbers  $\{2, 2, 4, 4, 9, 9\}$ 

The blue die has the numbers {3, 3, 5, 5, 7, 7}

Each player chooses a different die. They roll their dice. The winner is the person whose die shows the bigger number.

Alison and Charlie are playing the game. Charlie wants to go first so Alison lets him.

## Was that such a good idea?

Can you advise Alison on which die to choose once she knows which die Charlie has selected?