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Interactive: Birthday Problem Simulation

This interactive simulates the [birthday problem](#).

Birthday Problem Simulation - Directions for Use

1. Use the slider to select a number of people to add to your room.
2. Click "Add" to put them in the room. Click "Stop" to stop adding people to the room and stop the simulation.
3. If you want to start over from the beginning, click "Reset Simulation".

What You'll Notice:

- The probability that the next person you add will have the same birthday as at least one of the people who are already present (conditional on the birthdays of everyone already present).
- The (unconditional) probability that, for this room count, there is at least one pair of people with the same birthday.
- Graphical and textual indications of when everyone's birthdays are, and how many people share that birthday.
- A count of the number of people in the room.
- How many people it took to get the first match, second match, and third match (once these occur).

You SHOULD TRY:

- What is the probability of at least one match with 10 people? 23? 50? 100? 365?
- How many people does it take to *absolutely guarantee* a match?
- How much variability does there seem to be in when the first match appears? What about the second match?



Controls

Show screen reader enhancements: ☐

Add1 person

AddReset Simulation

Probabilities

The probability that the next person will match: 0.0%

The probability of at least one match at this room count: 0.0%

Room Count: 0

