

Induction proof

(2)

I) Intuition

The blue eye problem

You are on an island with ~~100~~ others.

You could have blue or black eyes.

You cannot communicate.

Master: 1) Every 8pm, a boat comes to the island. If you tell the captain your eye color, and it is true, you may leave. If you are wrong, the captain shoots you.

2) At least one of you has blue eyes.

3) You can try on multiple days.

Assume there are 50 people with blue eyes.
What happens?

We use a method that is progressive in the number of people with blue eyes.