

Rotating the table



- n people are sitting around a circular table. There is a name tag in each place. Nobody is sitting in front of their own name tag.
- Rotate the table by a random number k of positions between 1 and $n-1$ (equally likely)
- X is the number of people that end up in front of their own name tag. **Find** $\mathbb{E}[X]$.

Decompose:

LOE:

Conquer: