Blind punch

For a bug, if we know if he was attempted to be hit by the shoe H times and it's initial probability of being hit P, then he will contribute to the answer P * ((1 - P) ^ H) if we were to pick him again to be hit by the shoe.

We maintain a priority queue with the possible contributions for each bug, and at each moment of time (when we choose who to hit) we choose the bug with the highest possible contribution, and update it's probability and place it back in the priority queue with the updated values.