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Solving problems privately

The increasing trend of outsourcing computations and, more generally, problem solving gives rise to various privacy issues. Probably the most famous problem of that kind is Yao's 'two millionaires problem': Alice has a private number a and Bob has a private number b , and the goal of the two parties is to solve the inequality $a < b$? without revealing the actual values of a or b or, more stringently, without revealing any information about a or b other than $a < b$ or $a > b$. In this talk, I will address group-theoretic problems that are similar in spirit.