

$$\begin{cases} \text{Min}_{\leq_{\overline{N} \times \overline{N}}} & \langle \textcolor{red}{x}, \textcolor{red}{y} \rangle, \\ \text{s.t.} & x + y \geq \lceil \sqrt{x} \rceil + \lceil \sqrt{y} \rceil + \textcolor{green}{c}. \end{cases}$$