## 2023-01-25

Suppose $A=I+\alpha v v^{T} \in \mathbb{R}^{n \times n}$, where $v \in \mathbb{R}^{n}$ and $\alpha \in \mathbb{R}$. In Julia, how would you write an $O(n)$ algorithm to evaluate $\phi(x)=x^{T} A x$ ?

