習題三

1. Prove that $\left[L\_{z},L\_{x}\right]=iℏL\_{y}$.
2. Prove that $\left[L^{2},L\_{x}\right]=0$.
3. Prove that $\left[L\_{z},L\_{-} \right]=-ℏ∙L\_{-}$ and $L\_{\pm }\left.\left|a,m\right.\right⟩$ is the eigenstate of $L\_{z} $with eigenvalue $\left(m\pm 1\right)ℏ$.

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