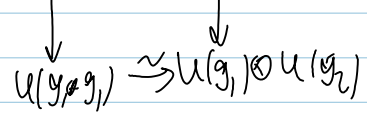
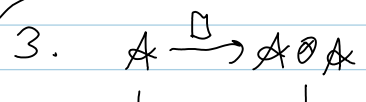
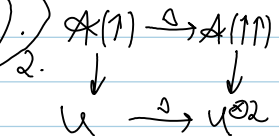
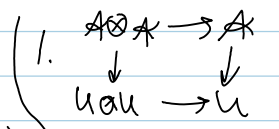


Some properties of $U(\mathfrak{g})$, to be interpreted in \mathcal{A} & \mathcal{K} :

- 1. $U(\mathfrak{g})$ is an algebra (non-commutative \mathfrak{g})
- 2. $U(\mathfrak{g})$ is a co-algebra (co-commutative).
- 3. $U(\mathfrak{g}_1 \oplus \mathfrak{g}_2) = U(\mathfrak{g}_1) \otimes U(\mathfrak{g}_2)$
- 4. $U(\mathfrak{g}) \cong S(\mathfrak{g})$ as v.s. & co-algebras.



4. is PBW, generalizes to $\mathcal{A}(1^n) = \mathcal{D}(1^n) = \mathcal{A}(*)$