Definition. A quantum permutation algebra (QPA) is a Hopf Algebra generated by the coefficients of \( x = (x_{ij}) \in M_{n \times n}(\mathbb{H}) \) s.t.

1. \( x \) is a permutation matrix: \( (H \text{ is a Hopf algebra}) \)

2. \( \Delta(x) = \ldots \)