Definition (Codiagonal function)

Define the *codiagonal function* $\text{codiag}_\mathbf{P} : \mathbf{P} + \mathbf{P} \to \mathbf{P}$:

$$\text{codiag}_\mathbf{P} : \mathbf{P} + \mathbf{P} \to \mathbf{P},$$
$$\langle 1, p \rangle \mapsto p,$$
$$\langle 2, p \rangle \mapsto p.$$