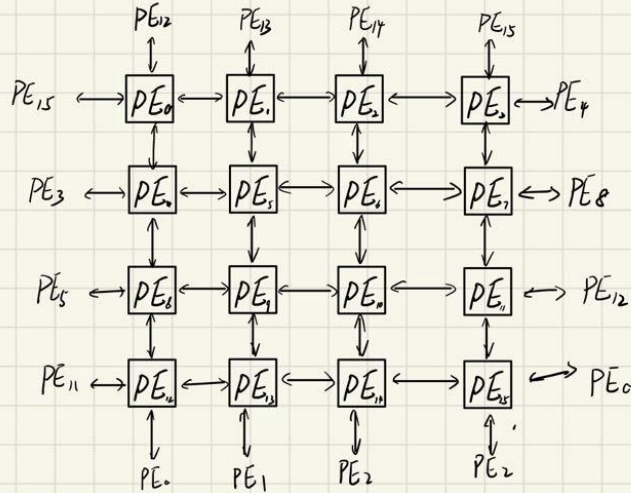


6-1.

一步: $PE_1, PE_4, PE_{12}, PE_{15}$ 二步: $PE_{13}, PE_2, PE_5, PE_8, PE_{11}, PE_{14}$ 三步: $PE_9, PE_6, PE_7, PE_{10}$ 6-2. $13 = 1101$

$$1) \text{Cube}_3(1101) = \text{Cube}_3(0101) = 5$$

$$2) \text{PM}_{2+3}(13) = (13 + 2^3) \bmod 16 = 5$$

$$3) \text{PM}_{2-0}(13) = (13 - 2^0) \bmod 16 = 12$$

$$4) \text{Shuffle}(13) = \text{Shuffle}(1101) = 1011 = 11$$

$$5) \text{Shuffle}(\text{Shuffle}(13)) = 0111 = 7$$

