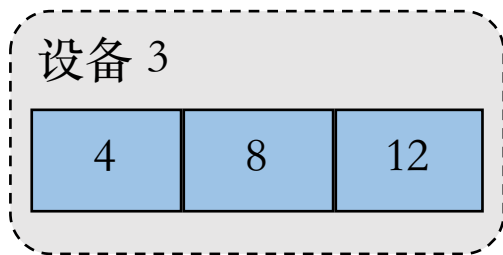
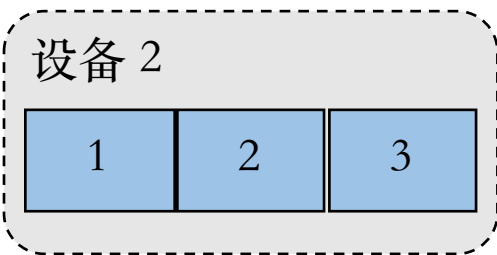
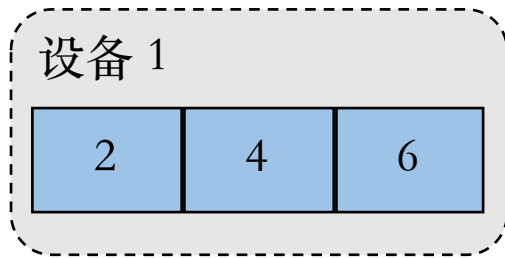
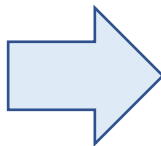


初始状态

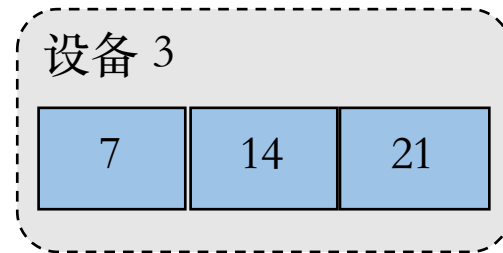
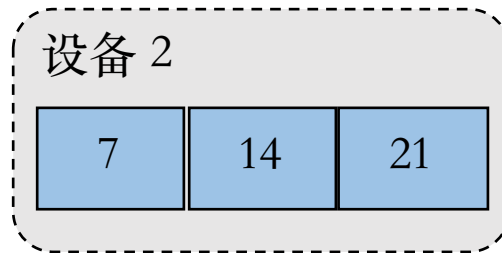
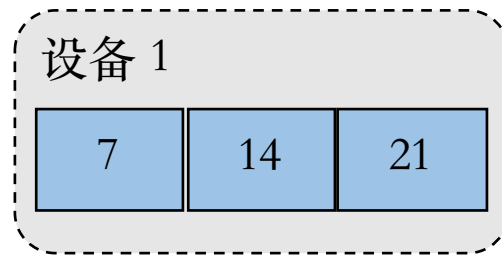


分区1 分区2 分区3

Allreduce



最终状态



$$7 = 1 + 2 + 4 \text{ (分区1计算过程)}$$

$$14 = 2 + 4 + 8 \text{ (分区2计算过程)}$$

$$21 = 3 + 6 + 12 \text{ (分区3计算过程)}$$