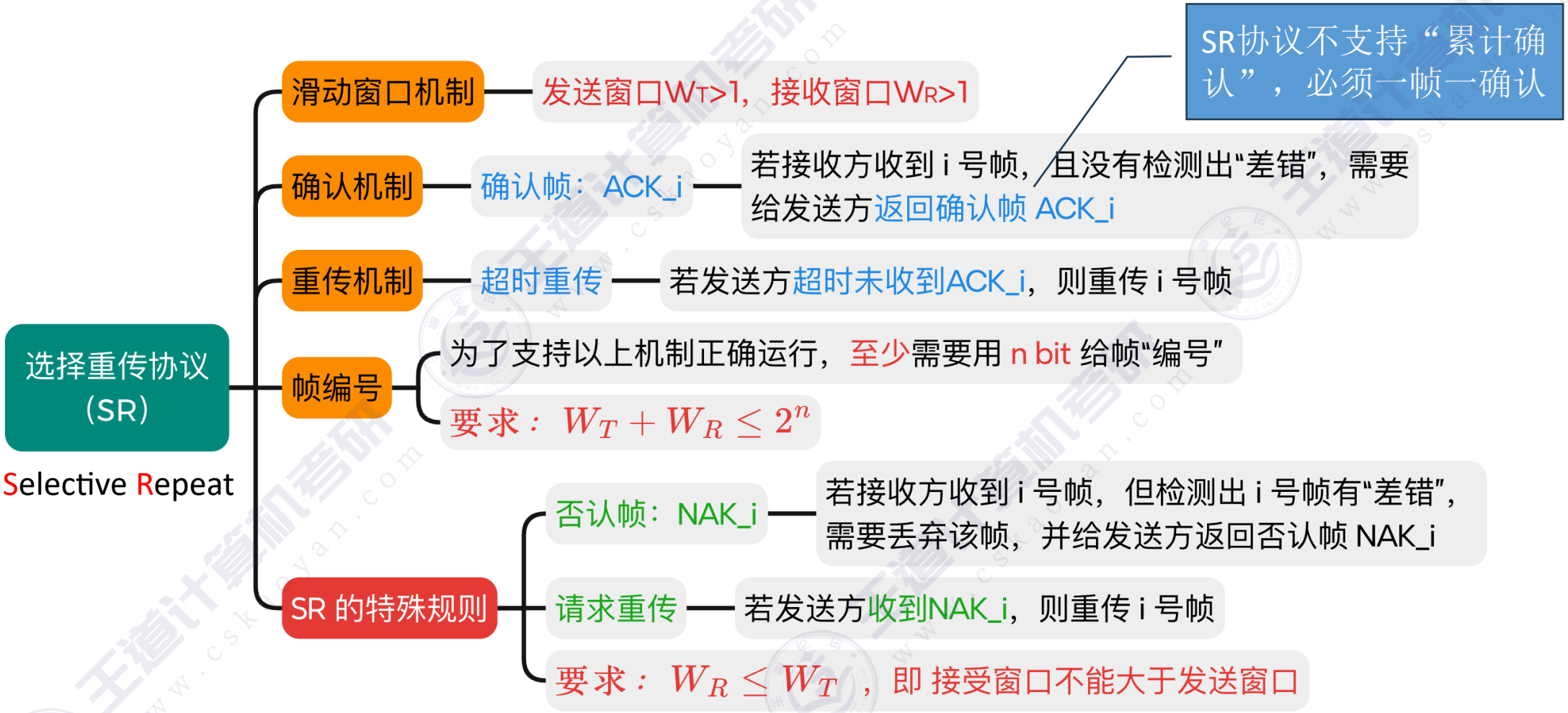
本节内容

选择重传协议（SR）

要点总览



选择重传协议的窗口大小限制条件

满足条件①、条件②

选择重传协议的窗口大小需满足如下两个条件：

①若用n bit 给帧编号，$W_T + W_R \leq 2^n$

② $W_R \leq W_T$

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不满足条件 ②

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选择重传协议（SR）

发送窗口
大小 W_T=4

在实际应用中，
通常取 W_T==W_R

发送方

A	B	C	D	E	F	G	H	I	J	K	L

用 3bit 给帧编号

0 1 2 3 4 5 6 7 0 1 2 3

0 1 2 3 4 5 6 7 0 1 2 3

接收方

A	B	C	D	E	F	G	H	I	J	K	L

接收窗口
大小 W_R=4

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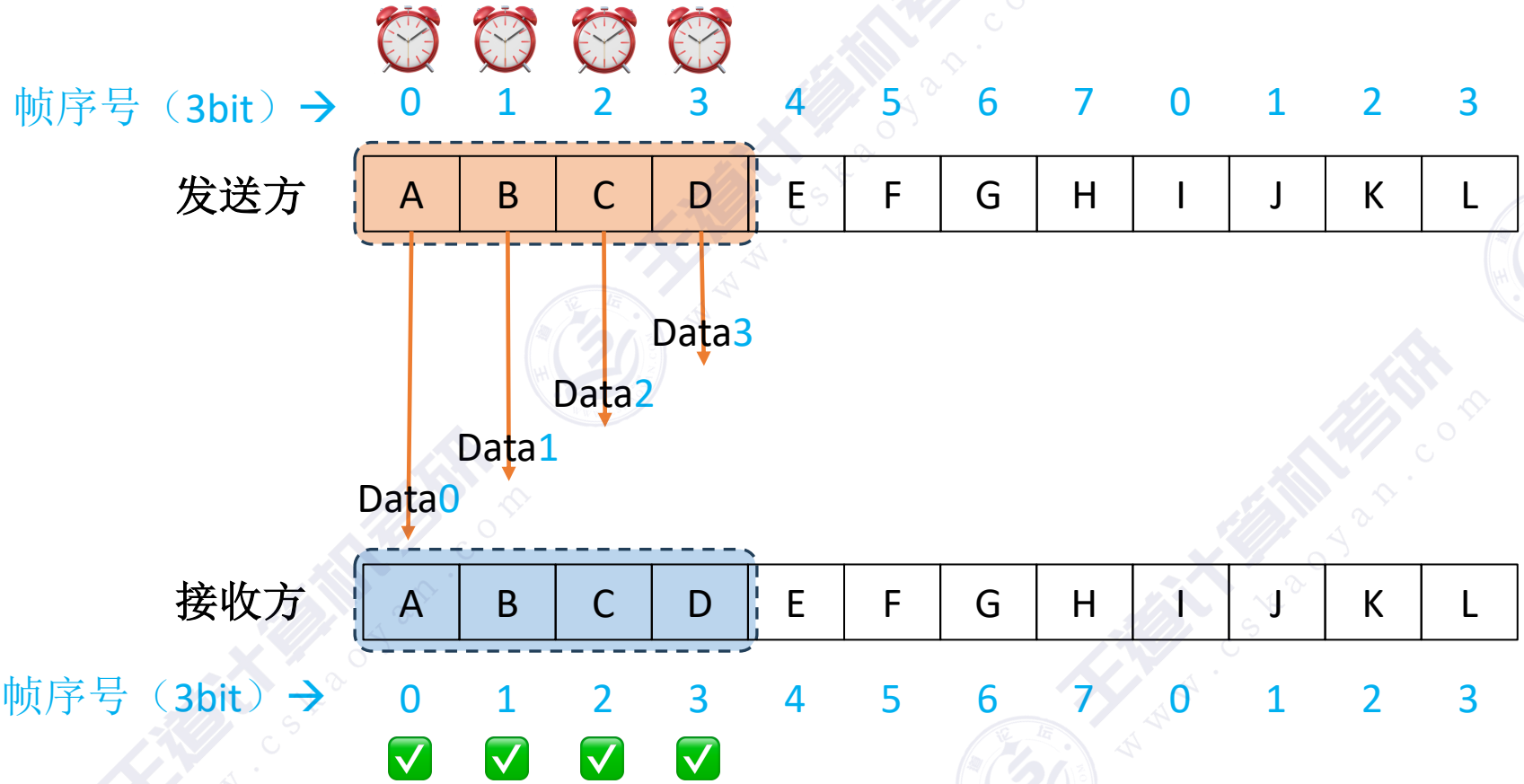
“正常”情况示例



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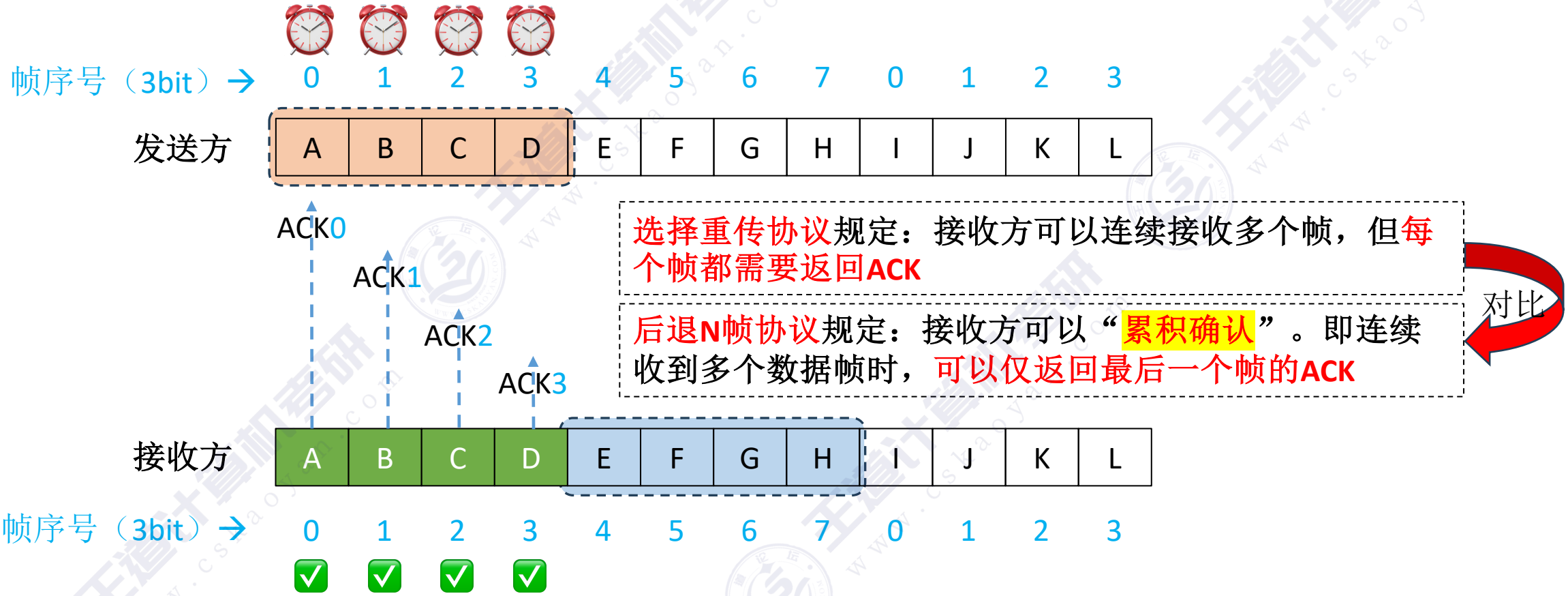

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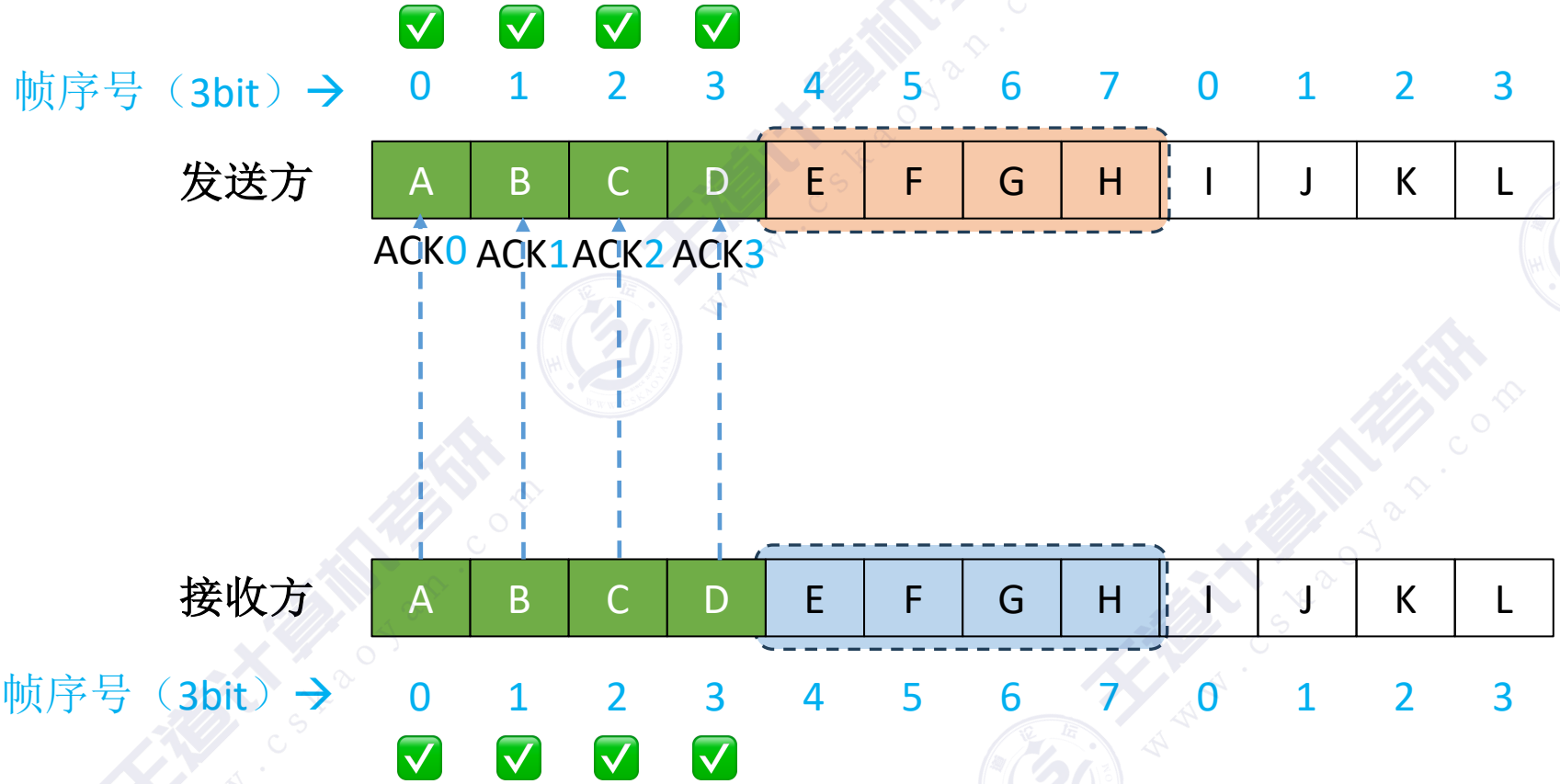
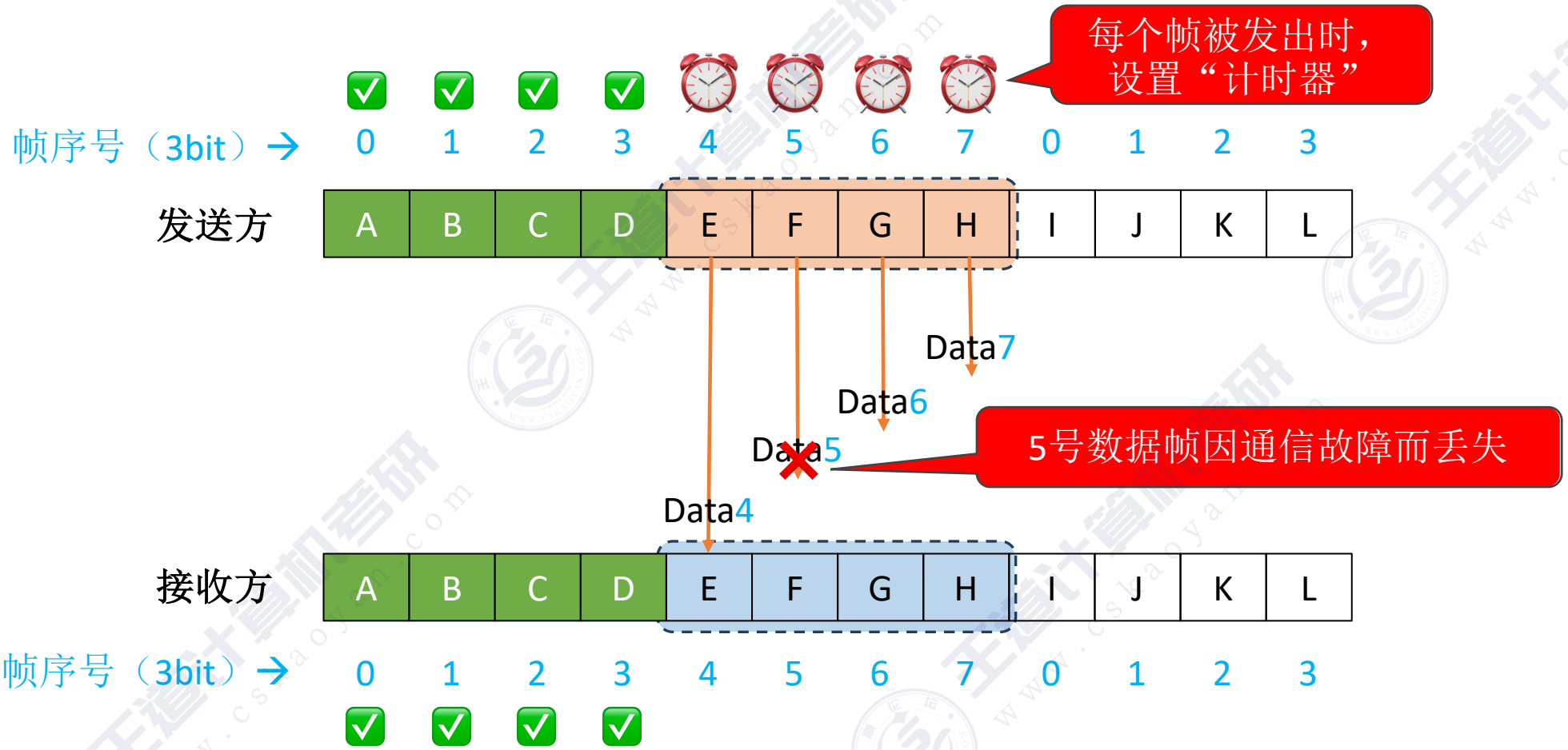


异常情况示例：数据帧丢失



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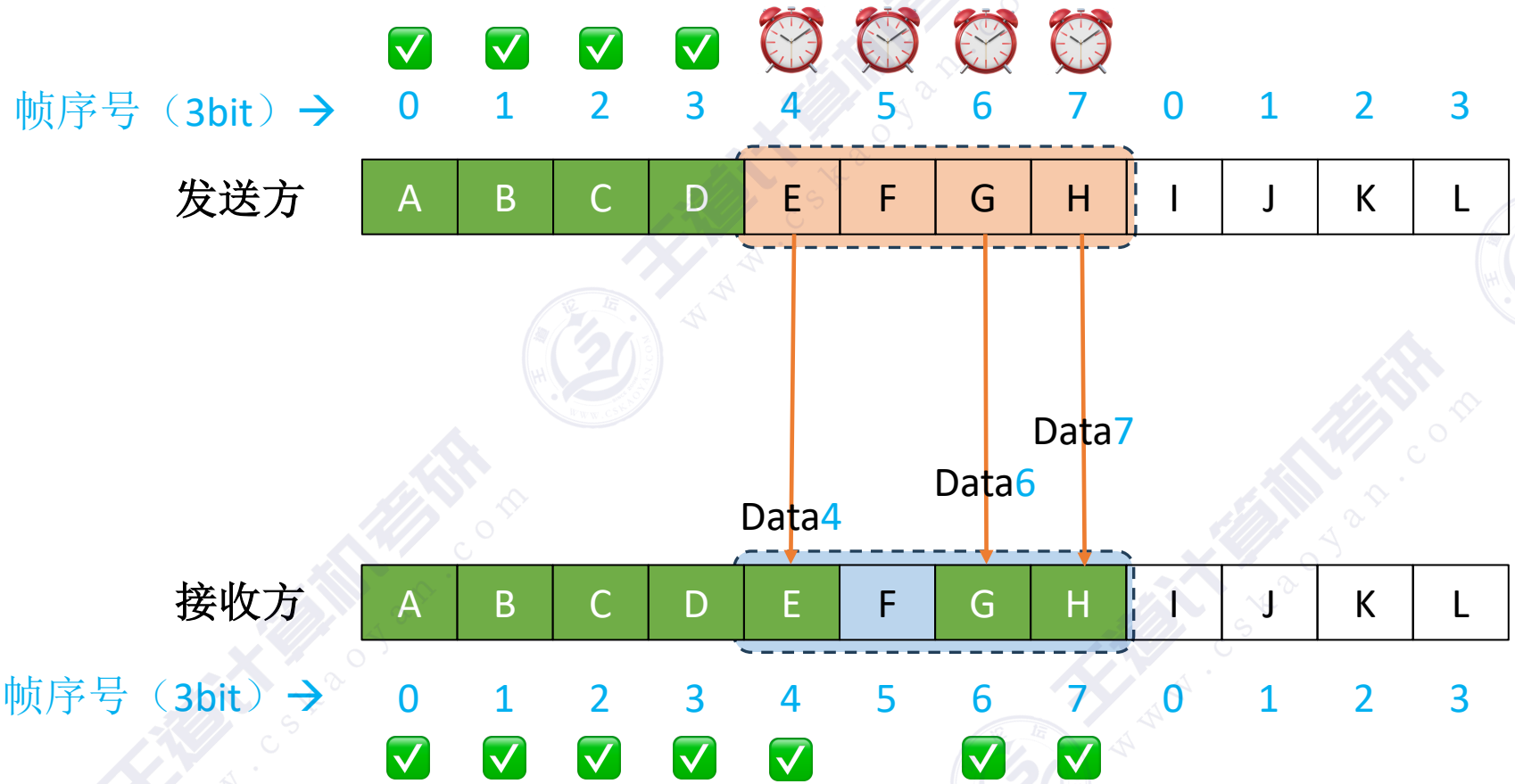

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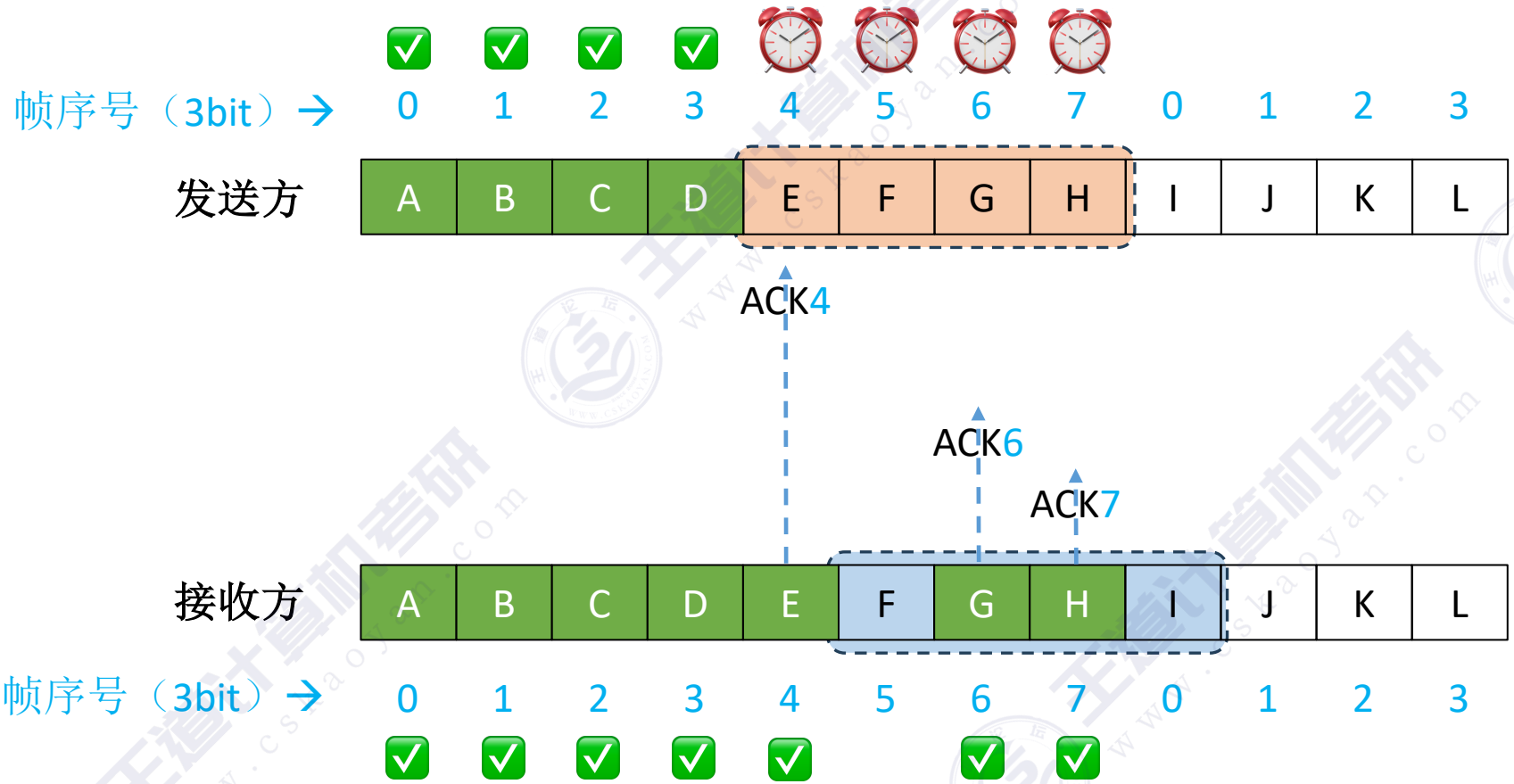

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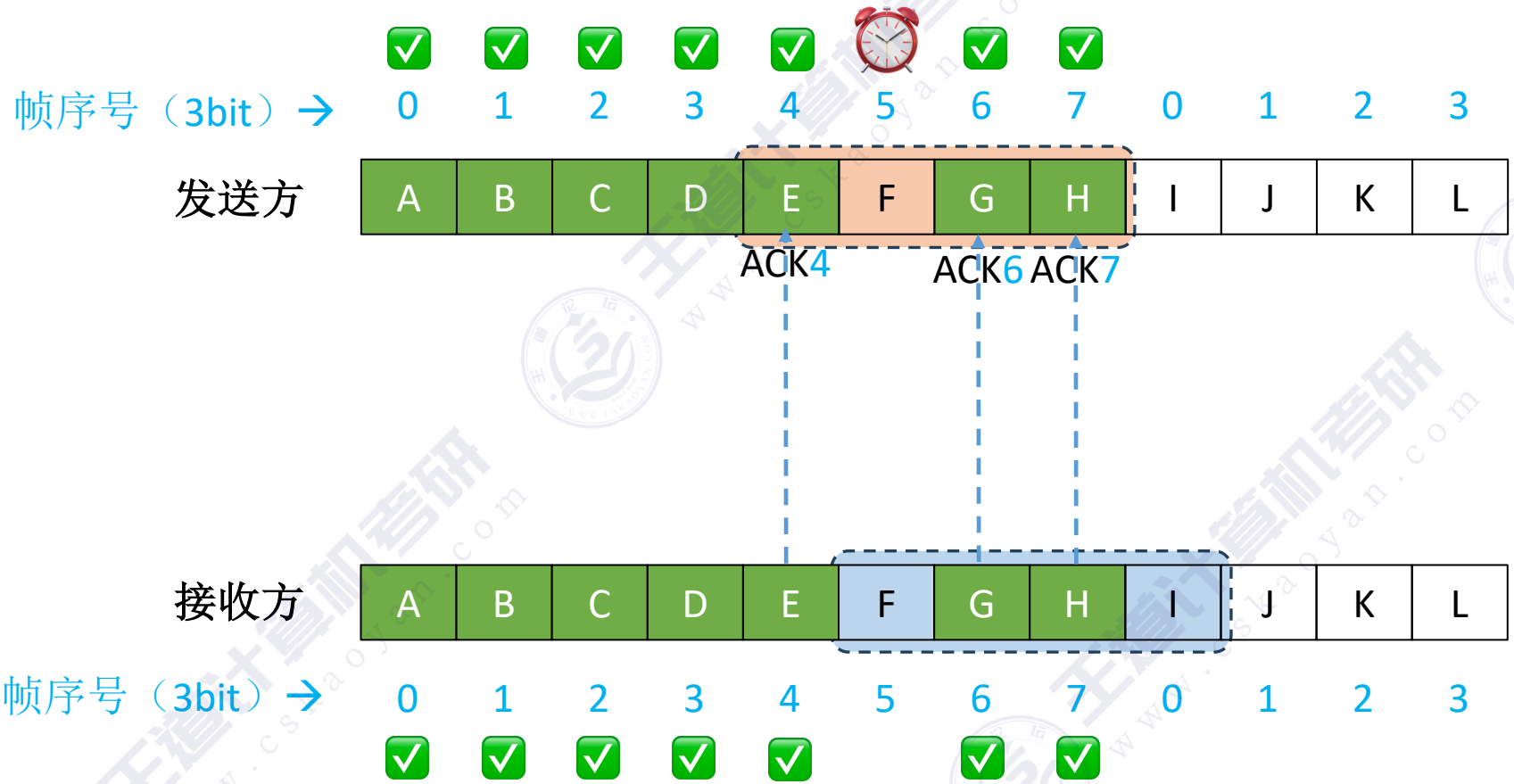

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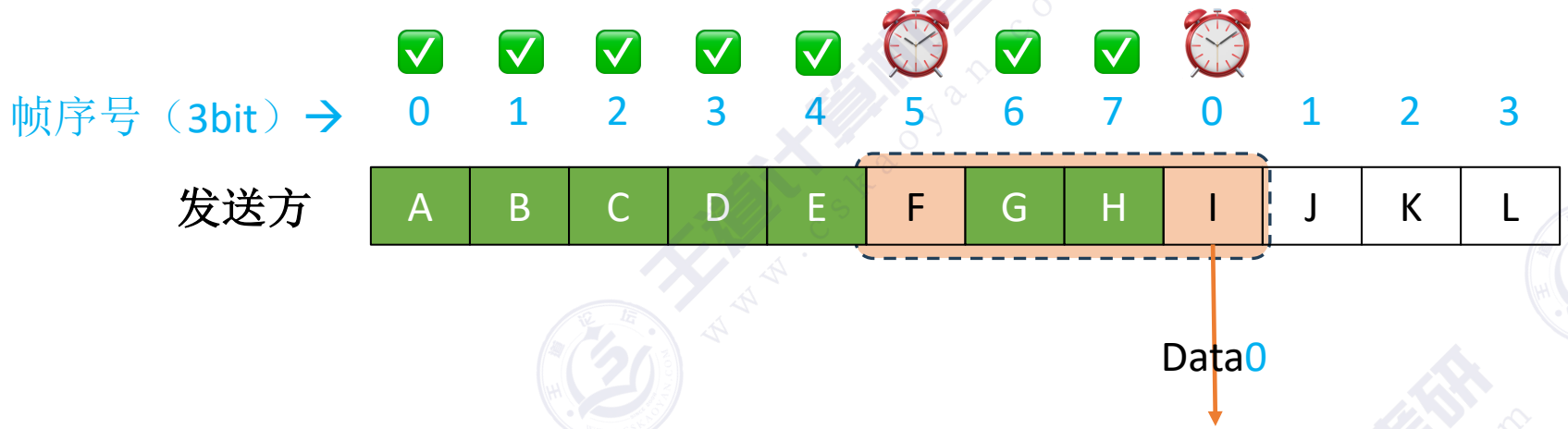

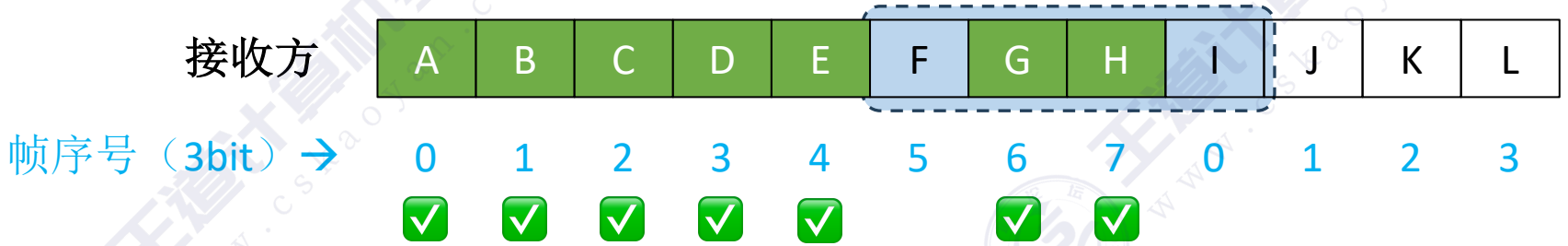

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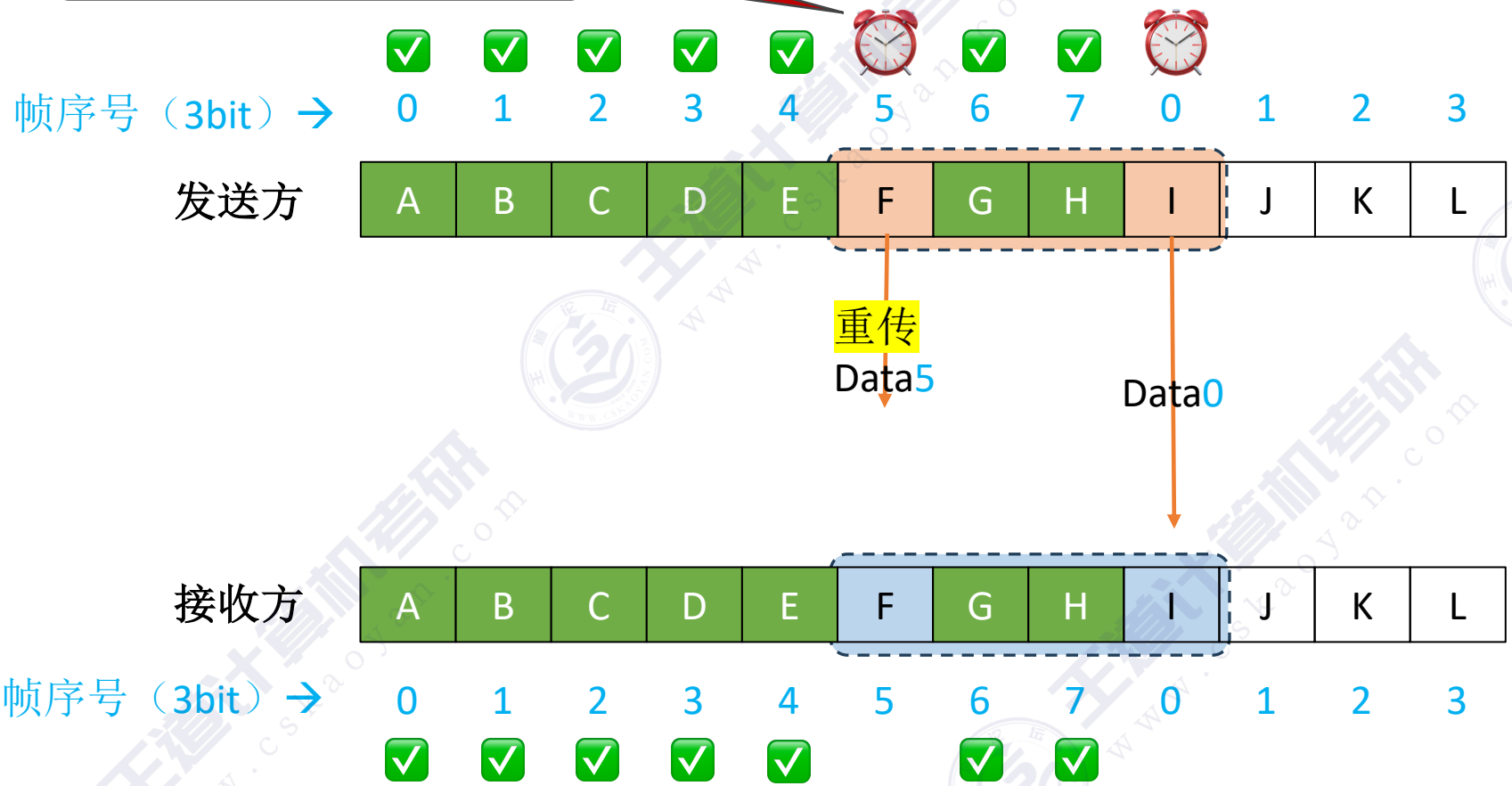
若i号帧超时，仅需选择重传 i 号帧，并重置计时器



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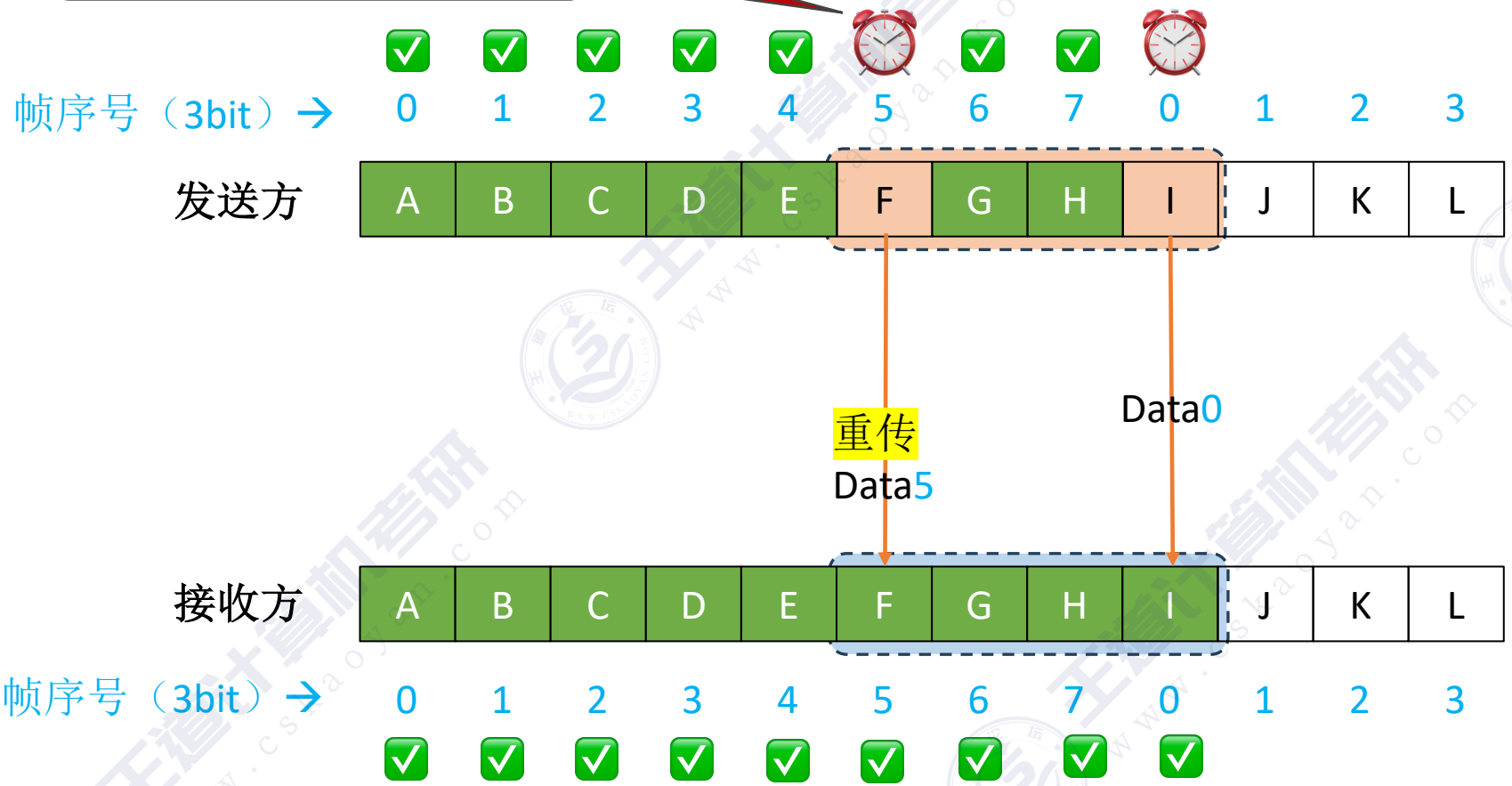

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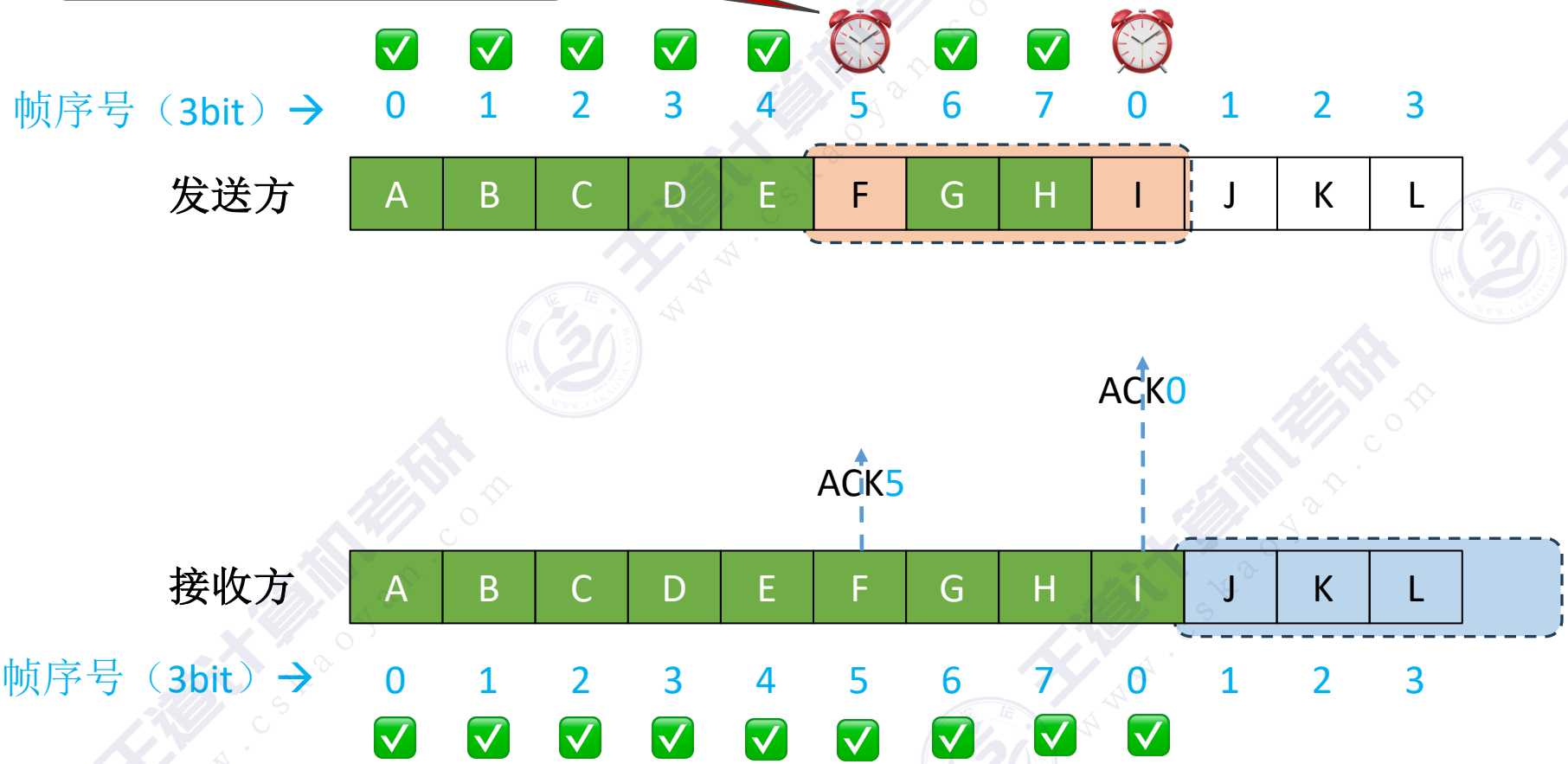

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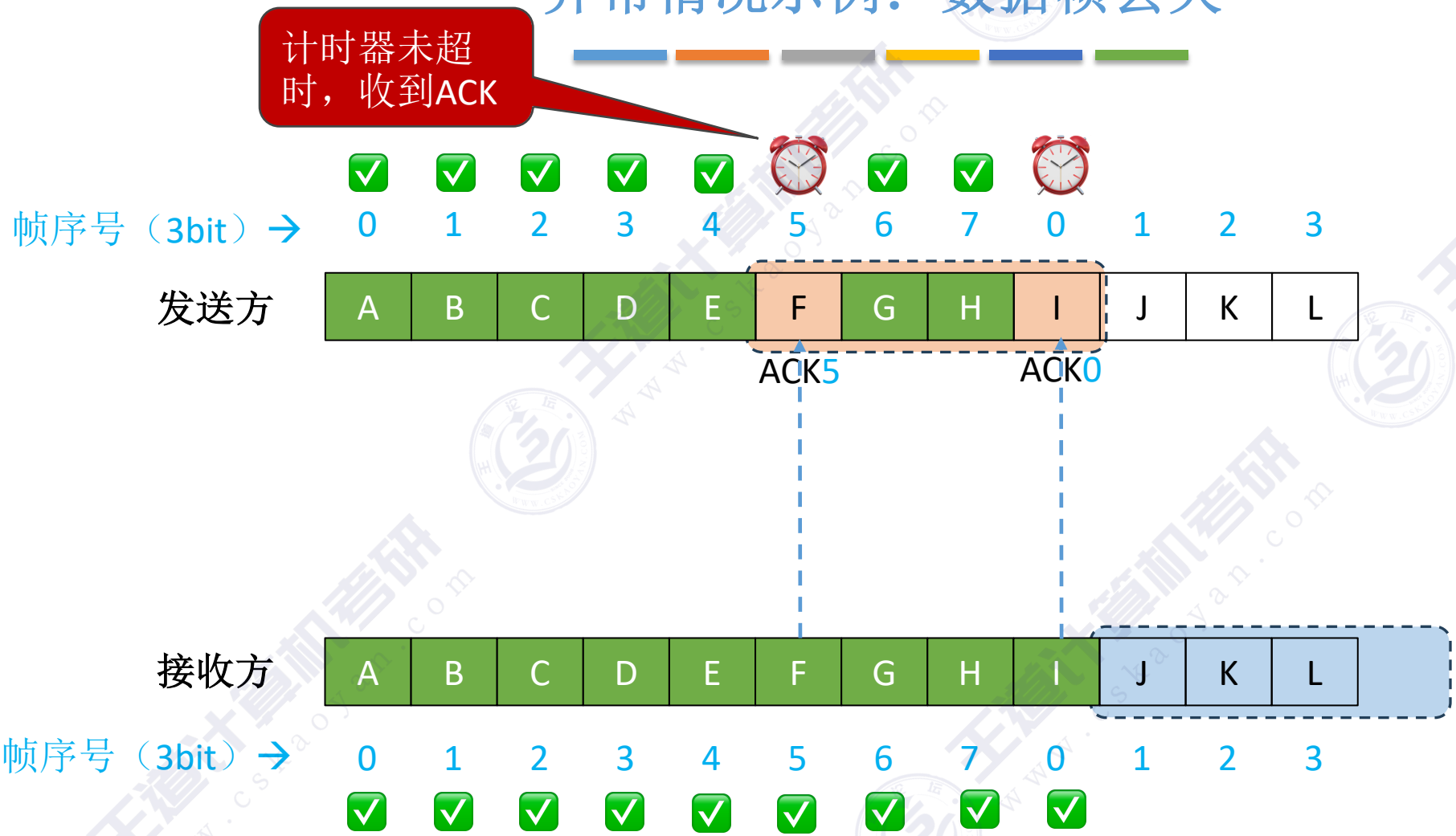

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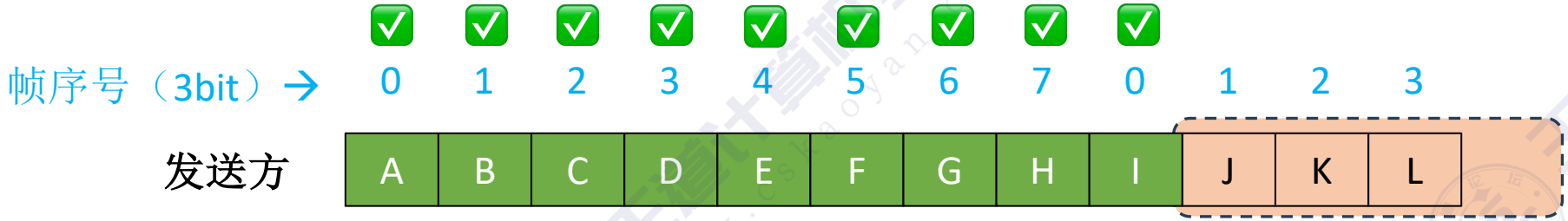
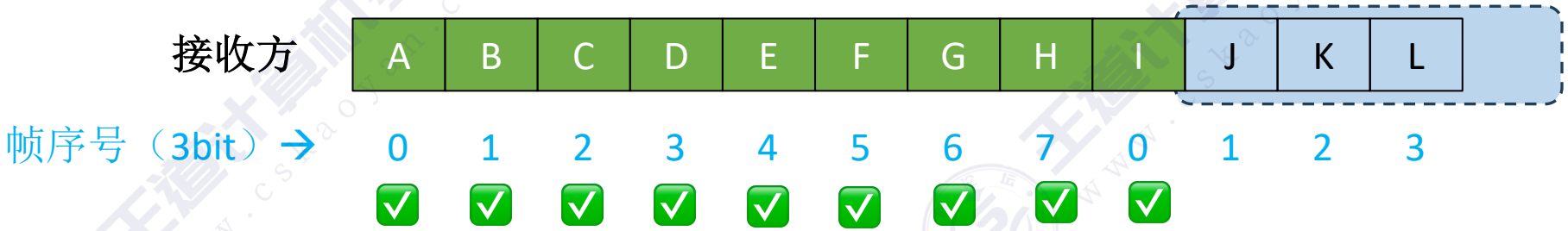
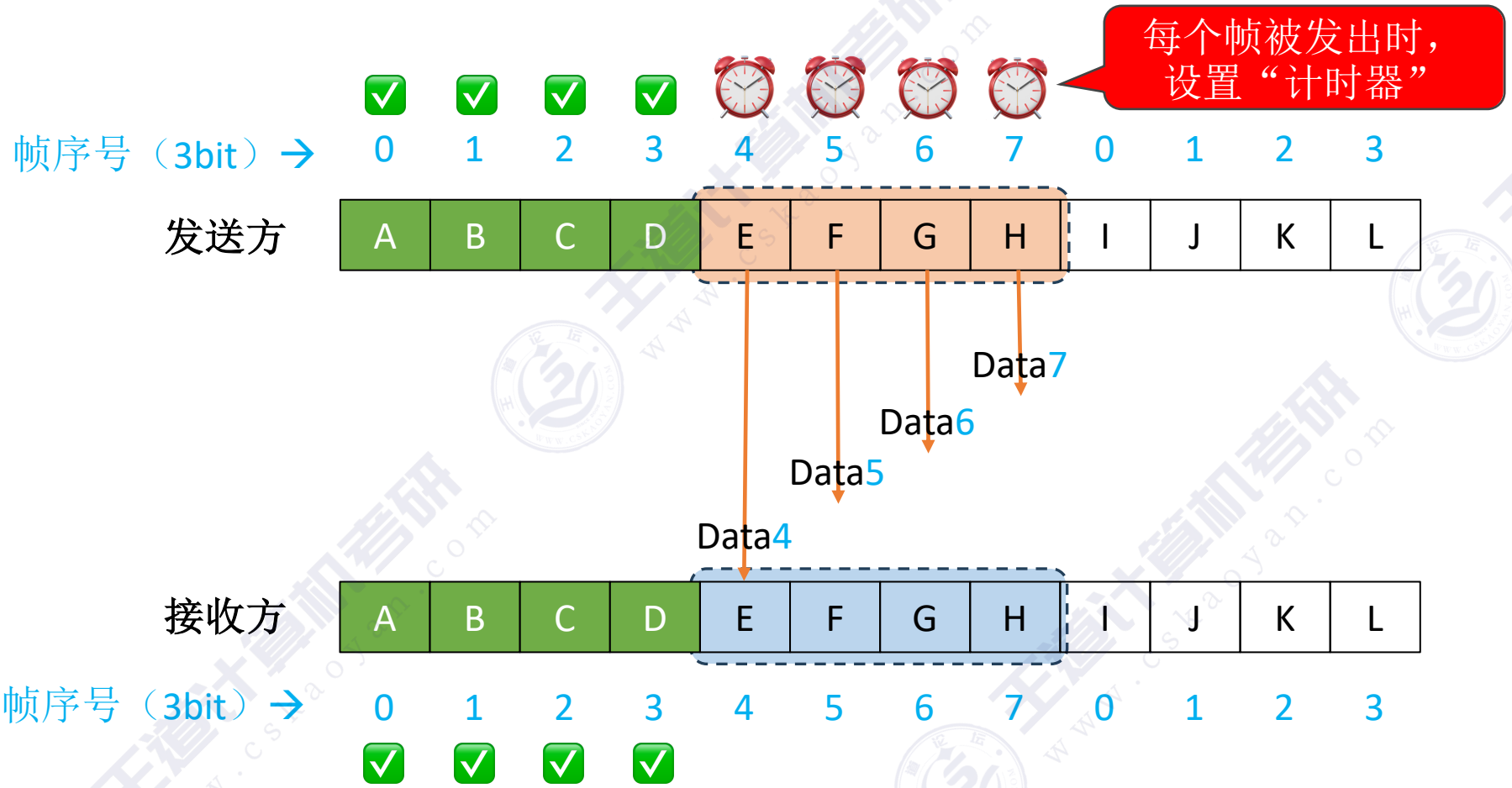


选择重传协议如何解决数据帧丢失问题：
超时重传机制：每个帧被发出时设置计时器，如果超时未收到对应的ACK，就重传这个帧



异常情况示例：数据帧因差错而被丢弃



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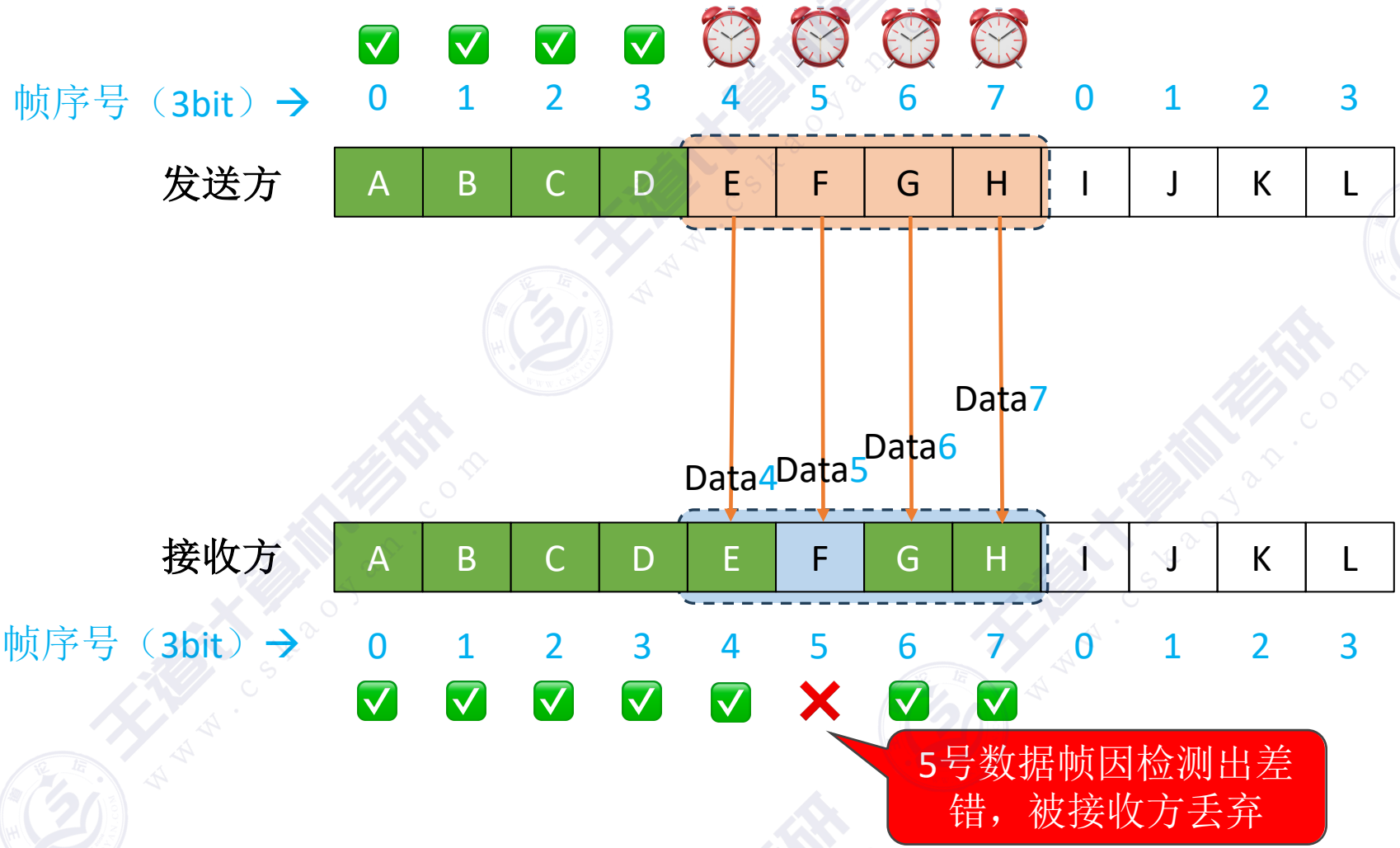

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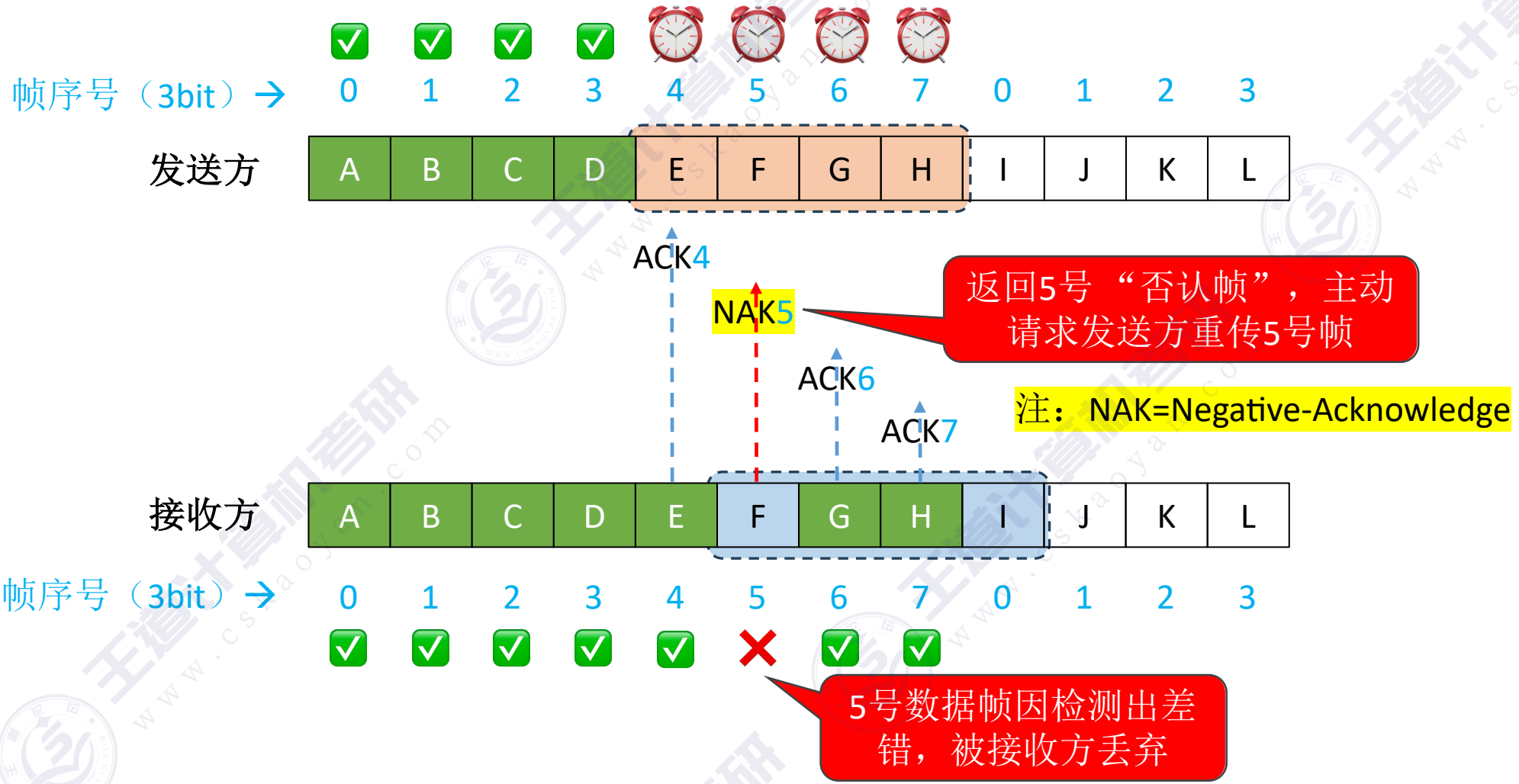

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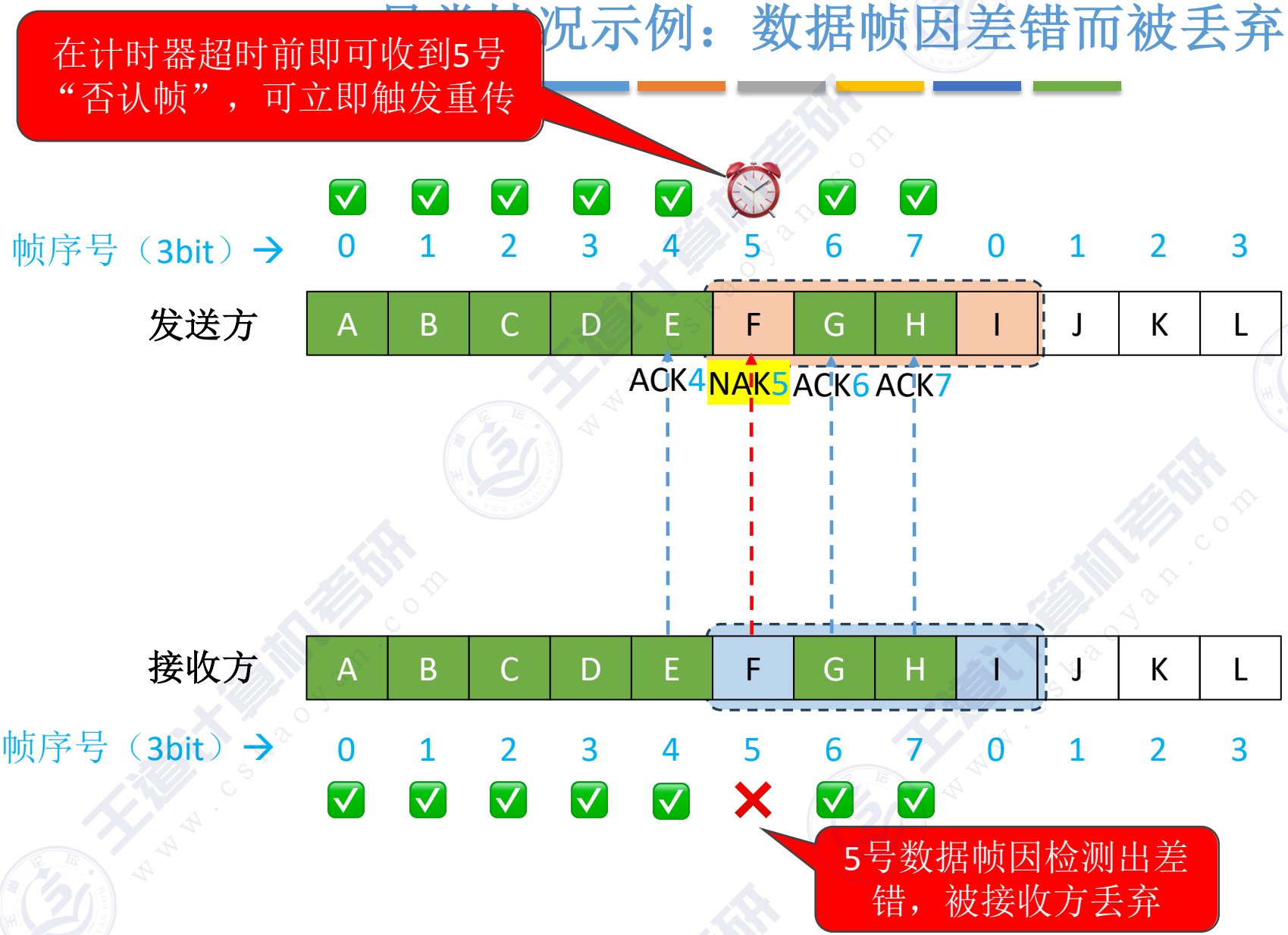

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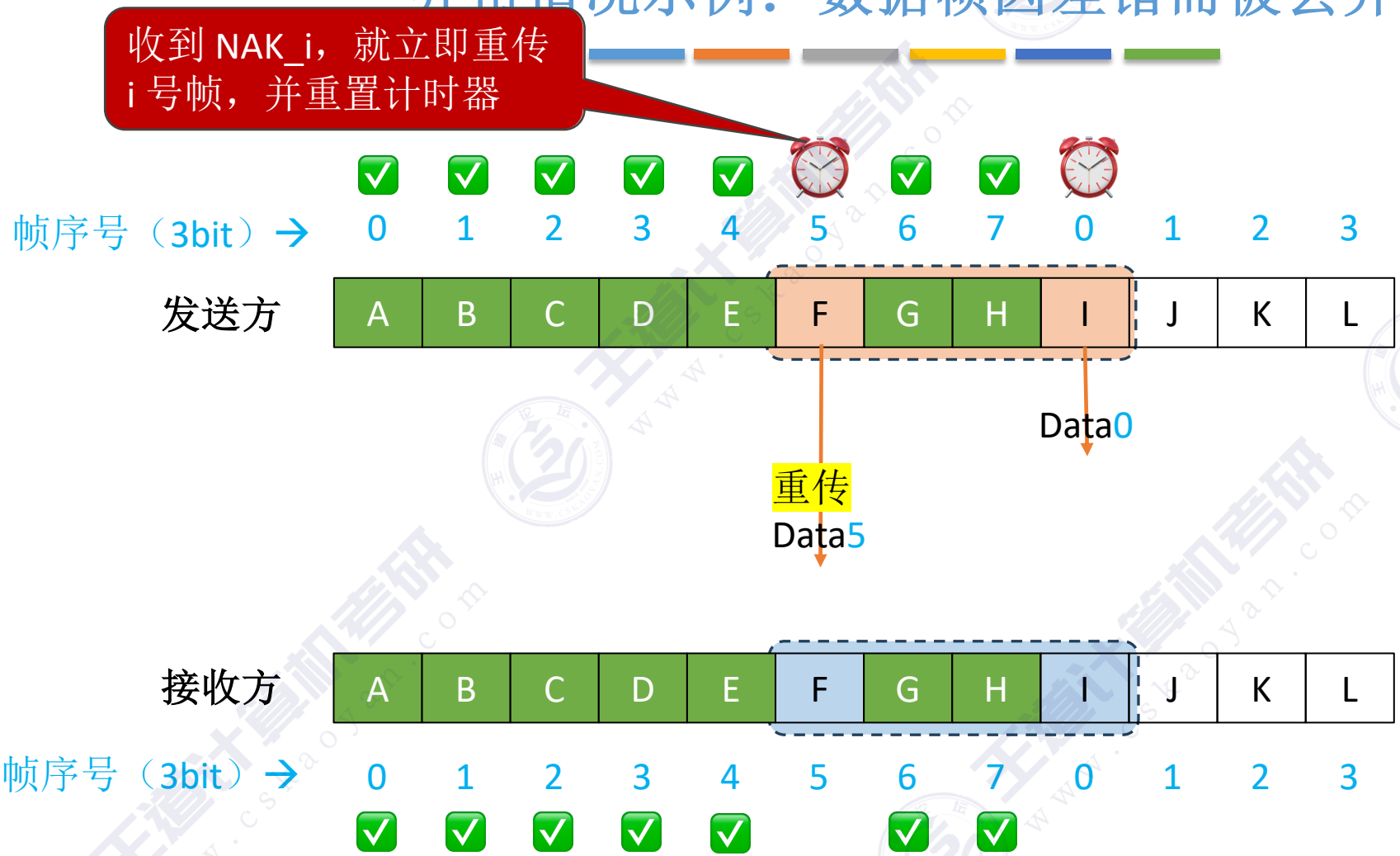

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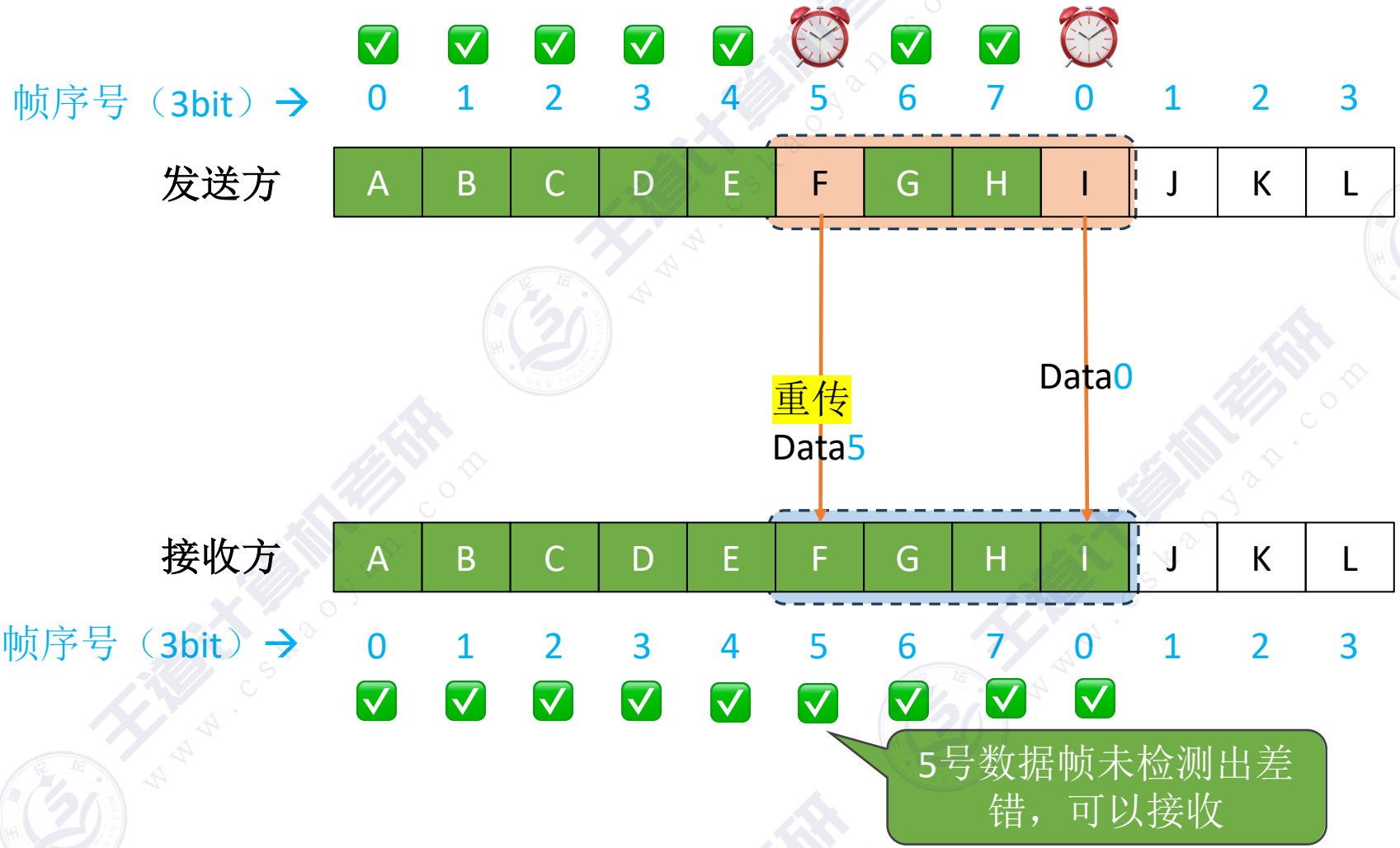

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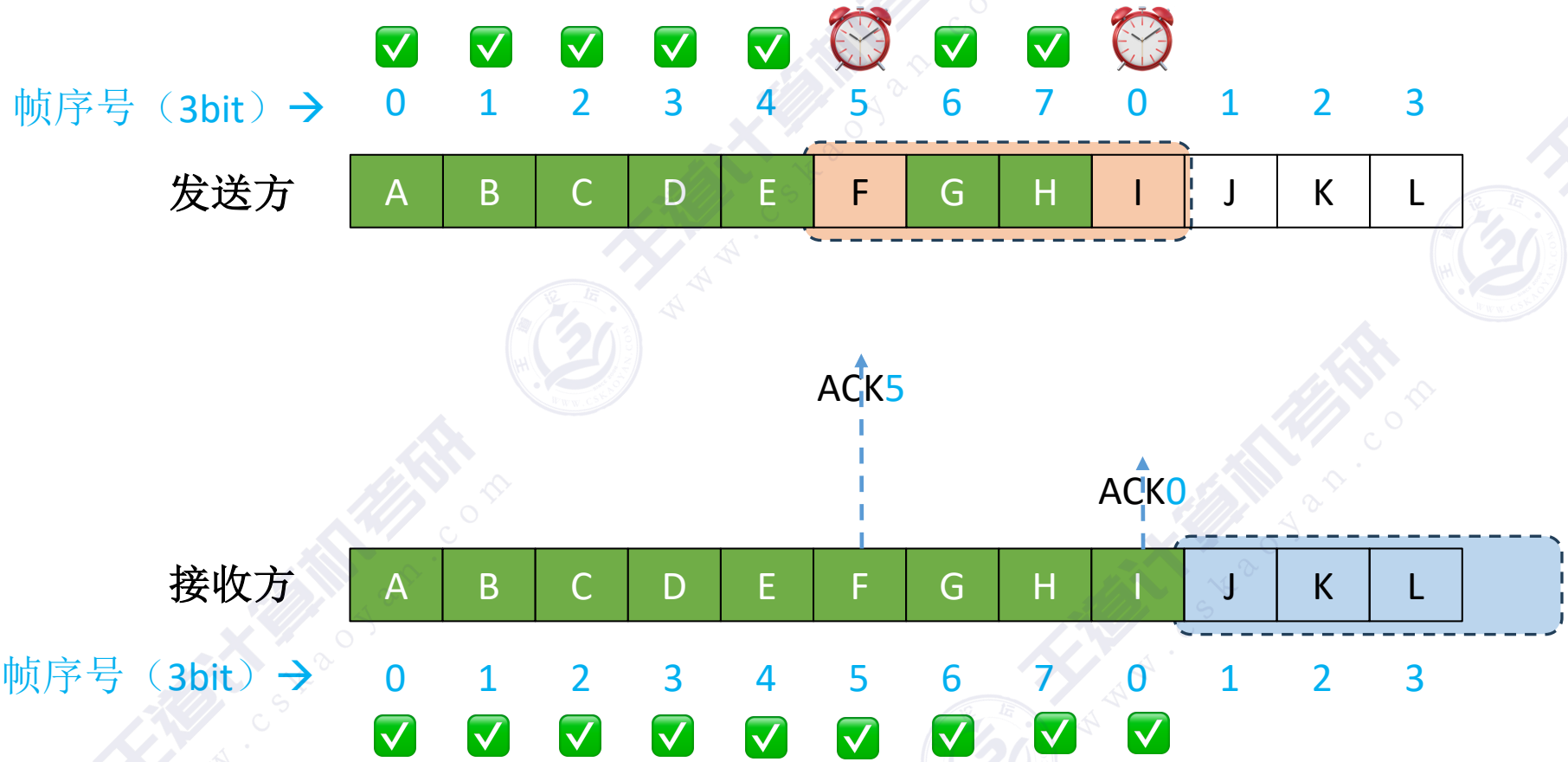

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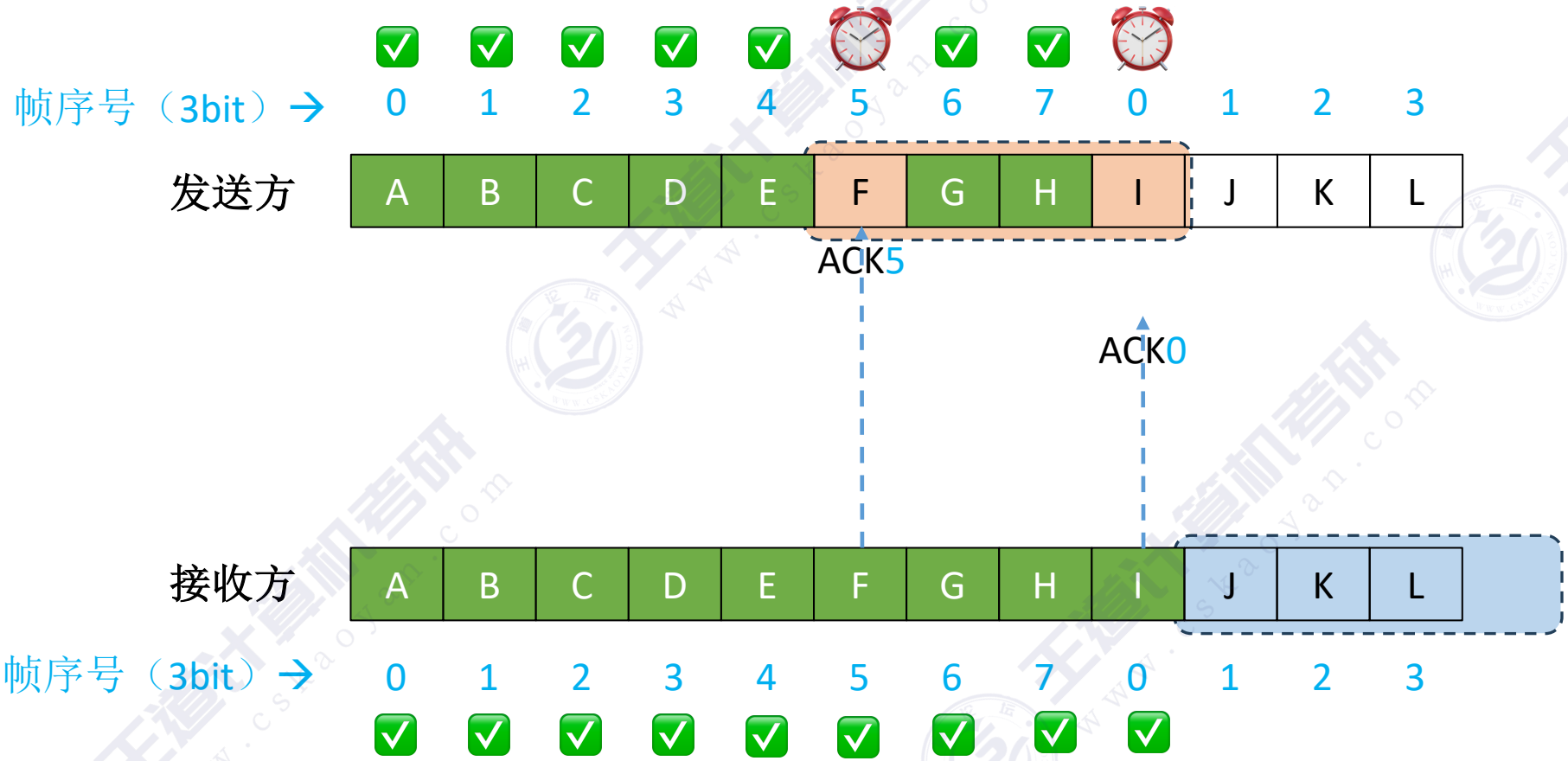

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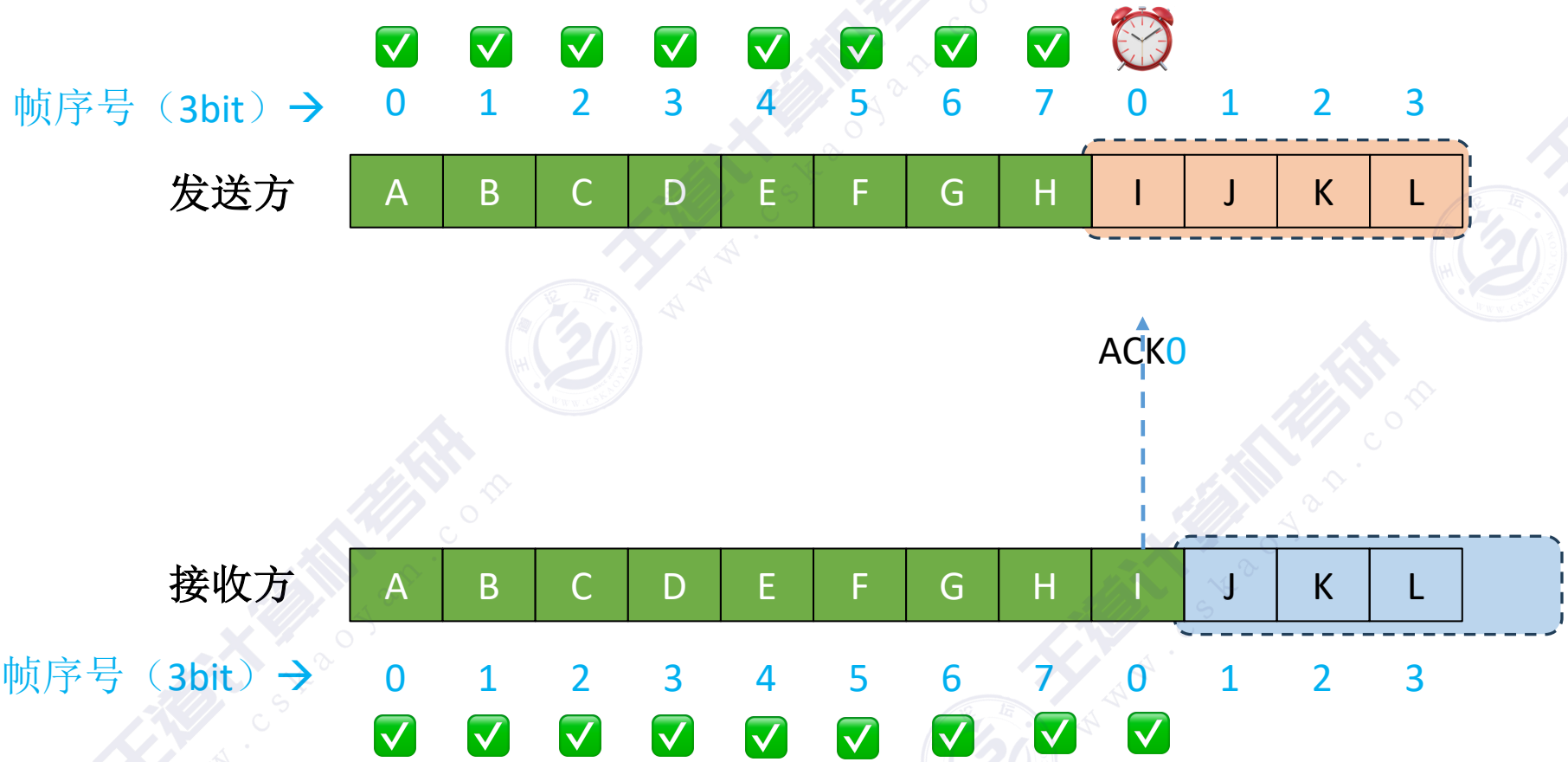

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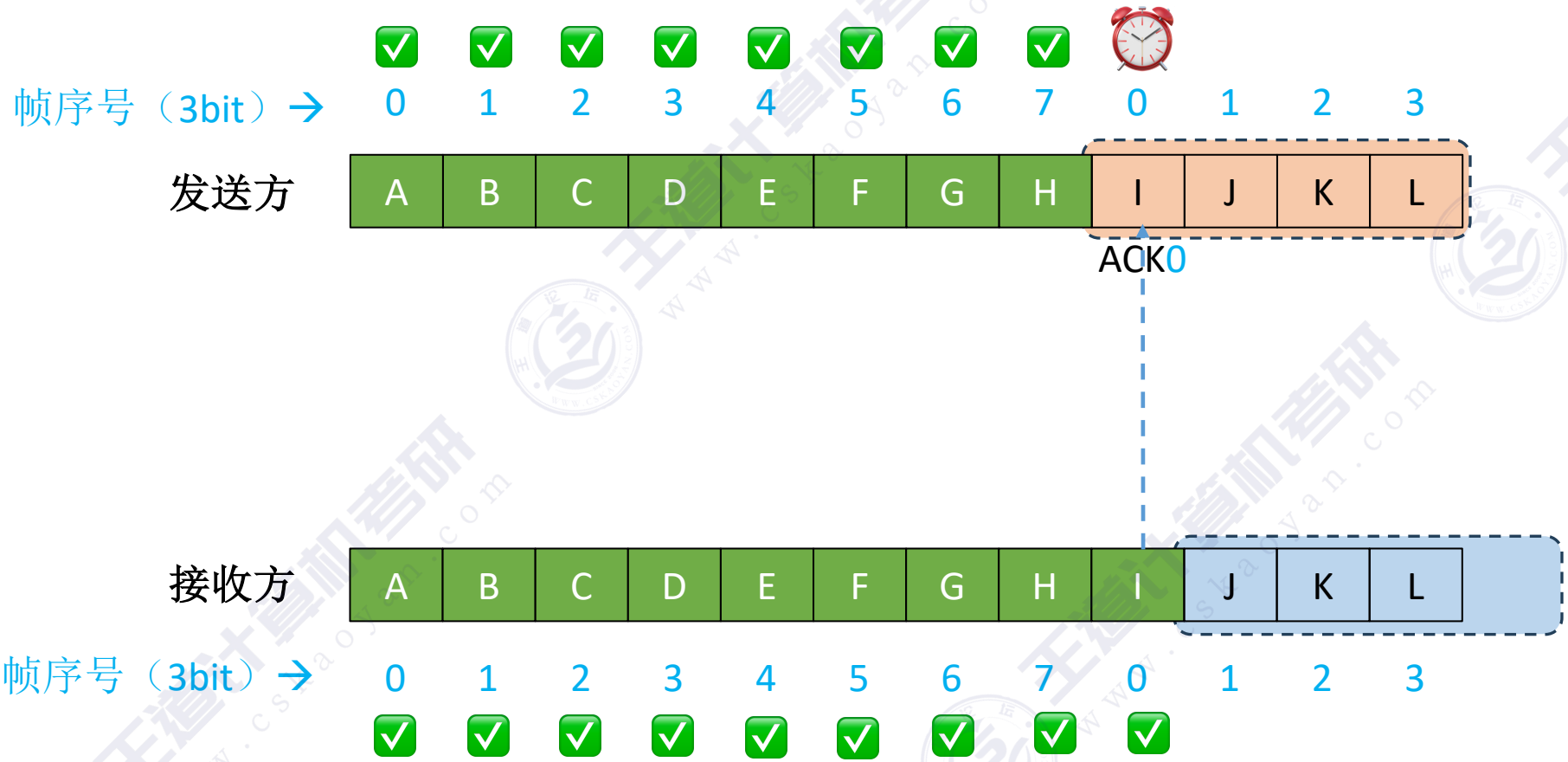

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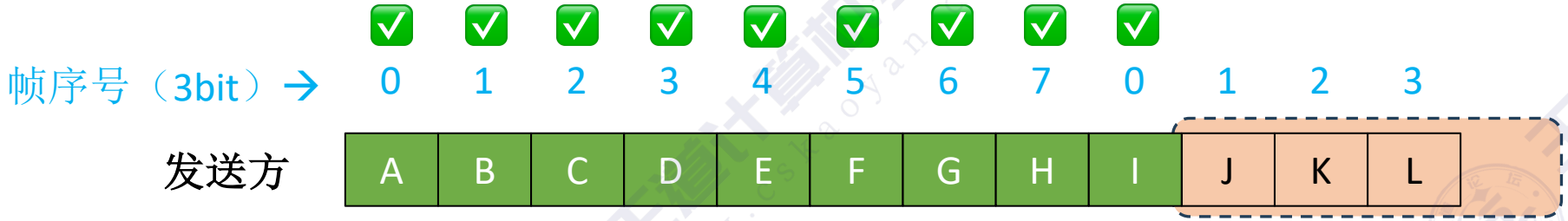
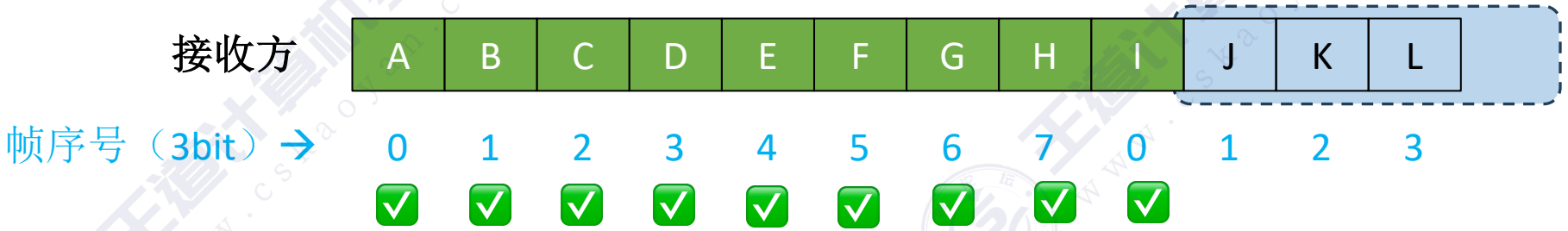
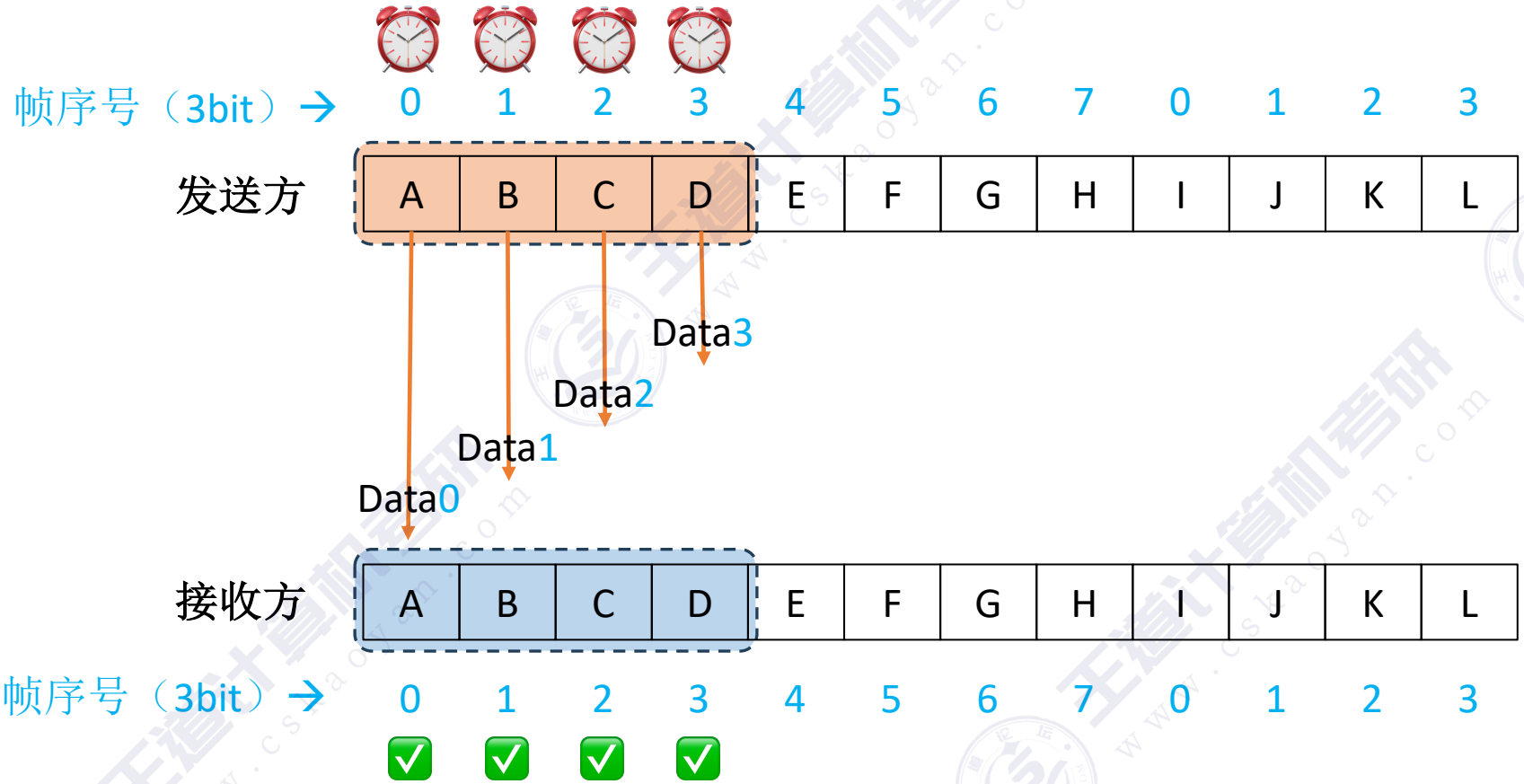


选择重传协议如何解决数据帧因差错而被丢弃问题：

请求重传机制：如果接收方收到一个有差错的帧，就将此帧丢弃，并返回对应的否认帧NAK_i，主动请求发送方重传 i 号帧



异常情况示例：确认帧丢失



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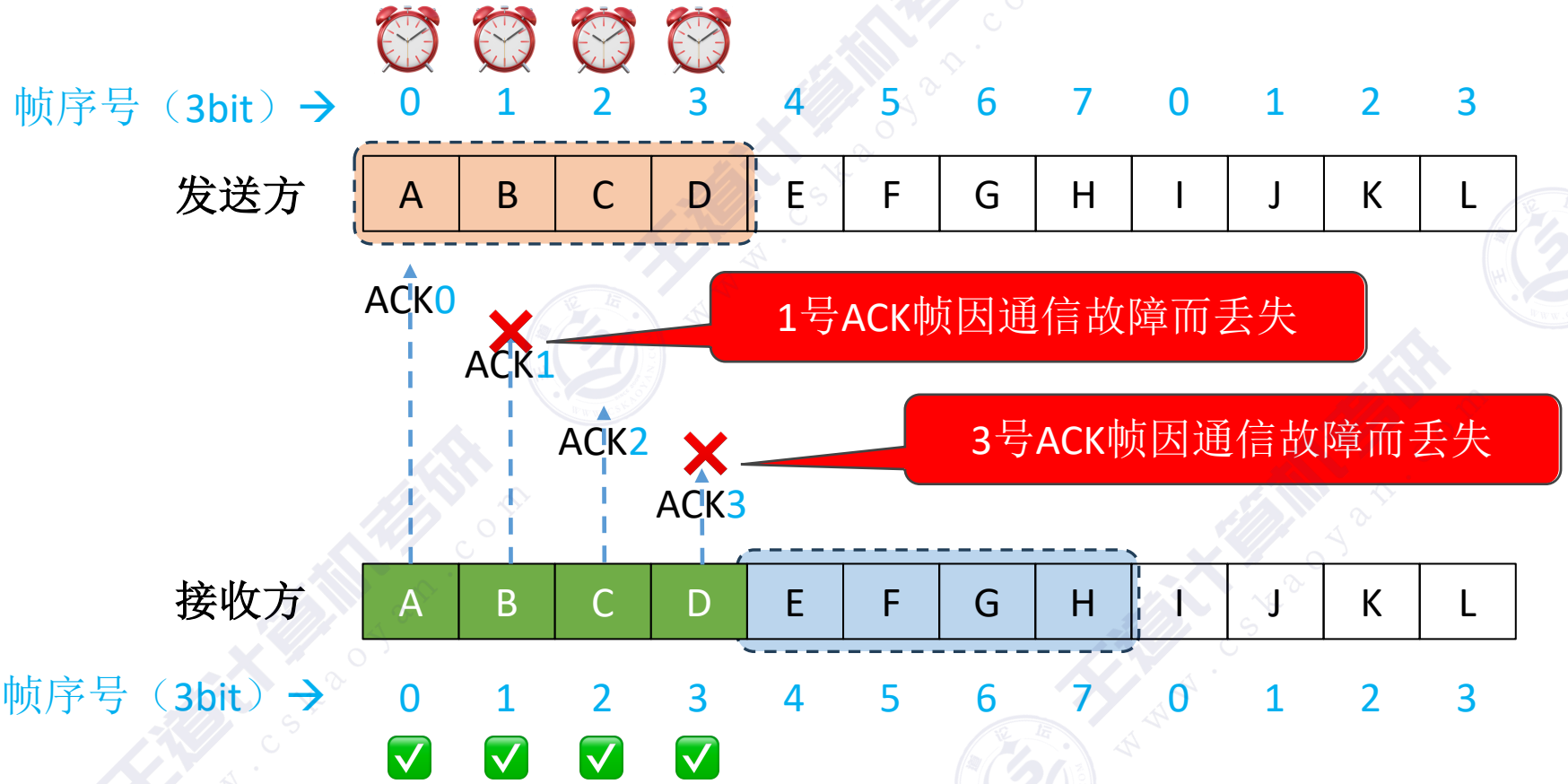

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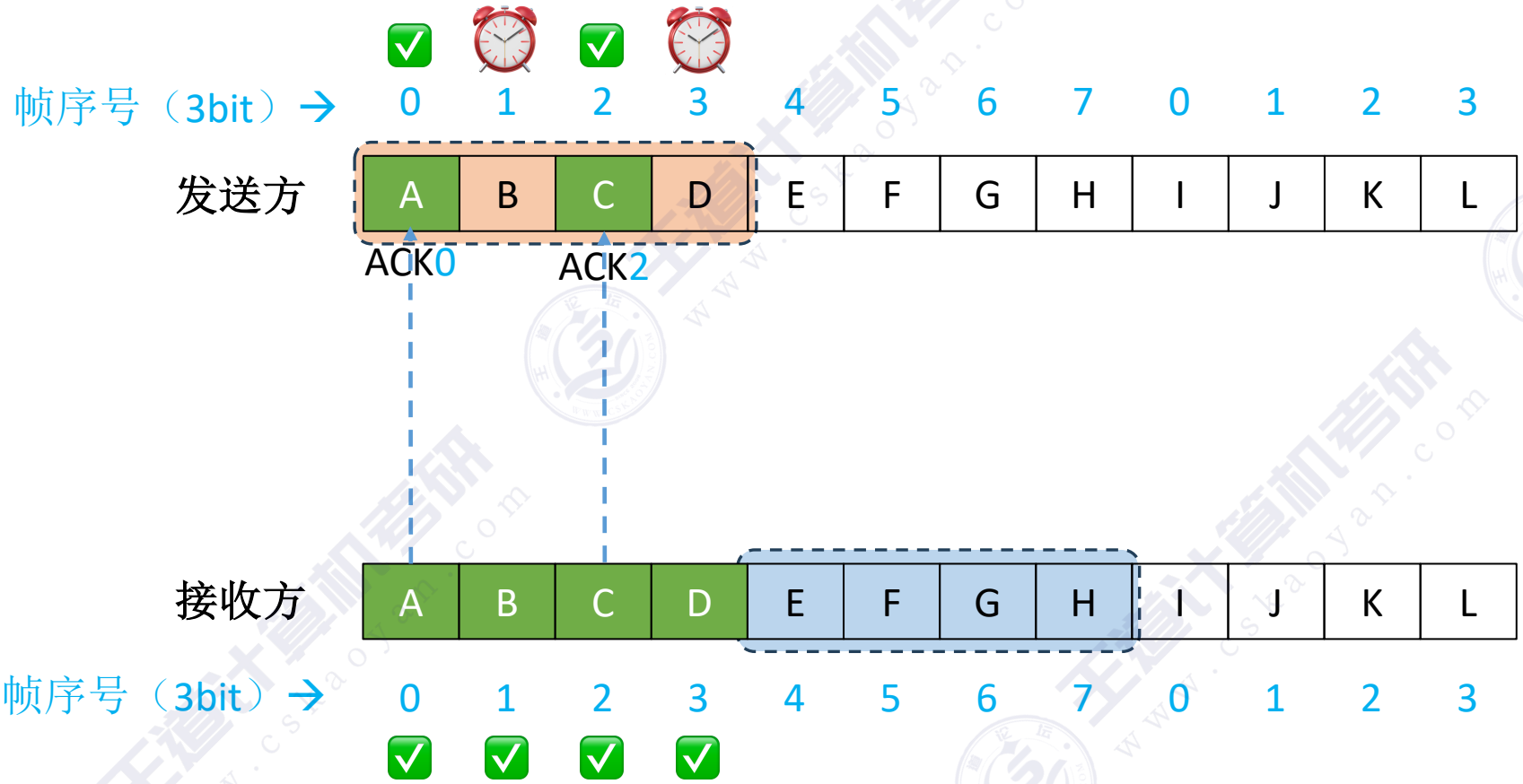

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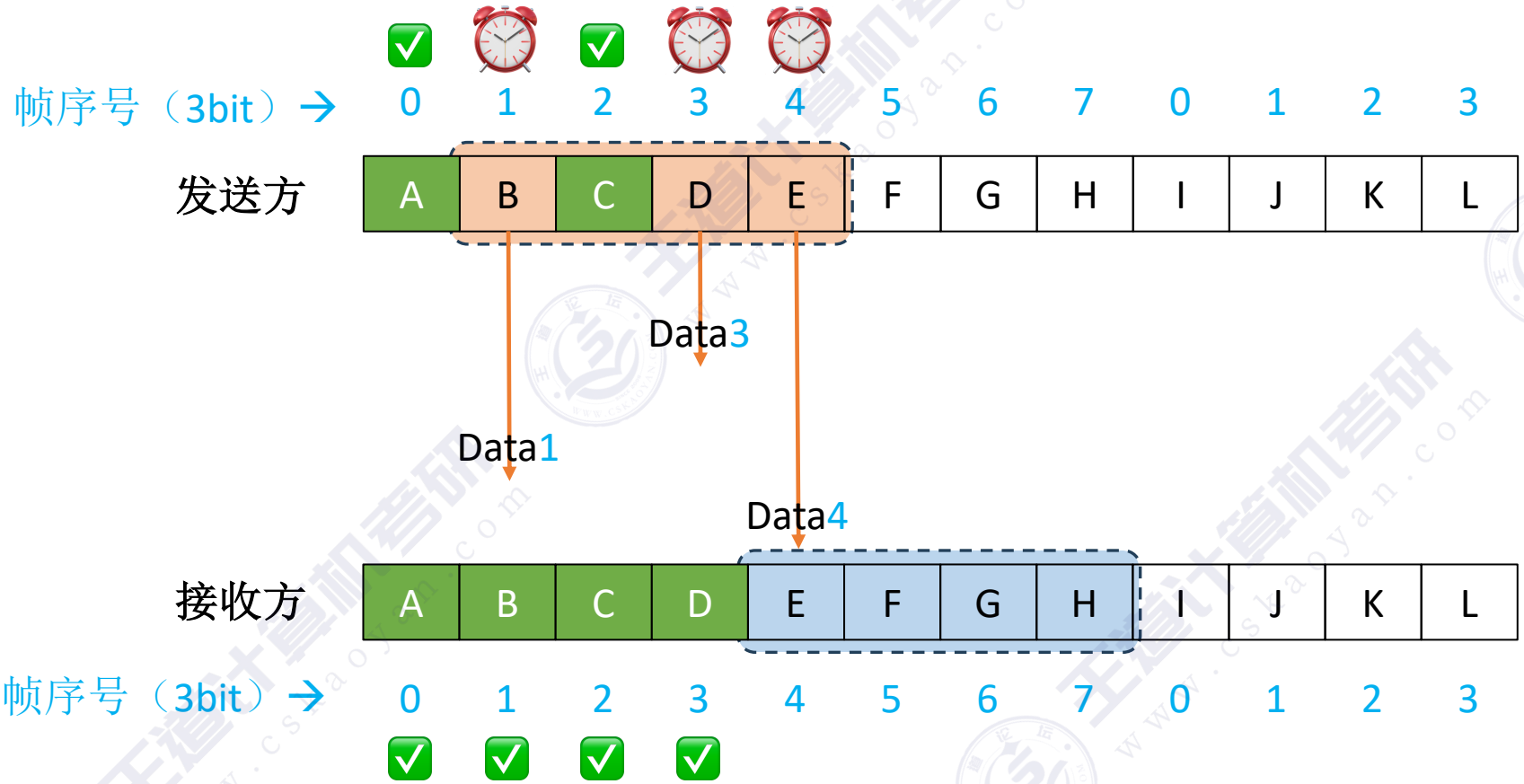

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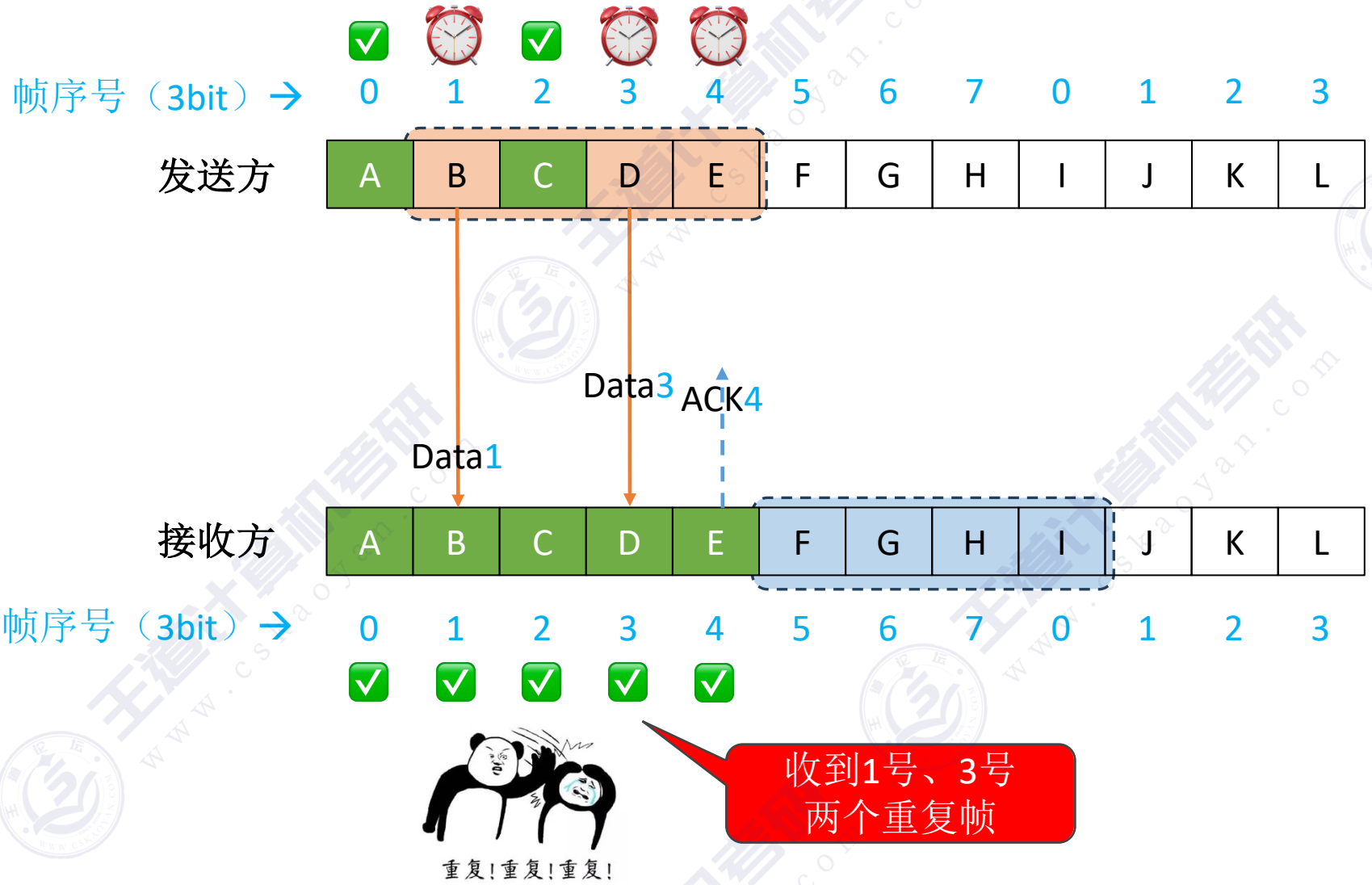

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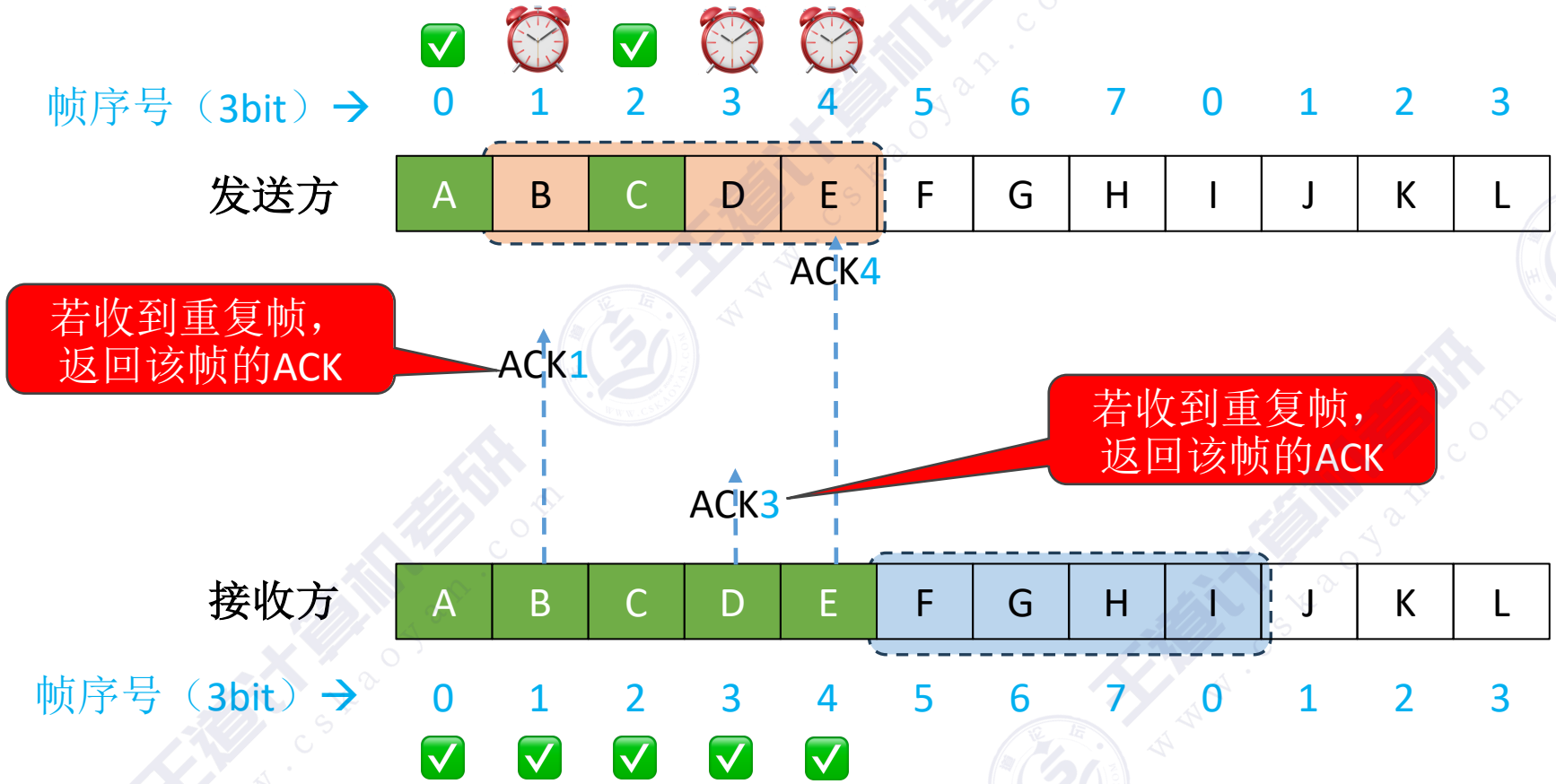

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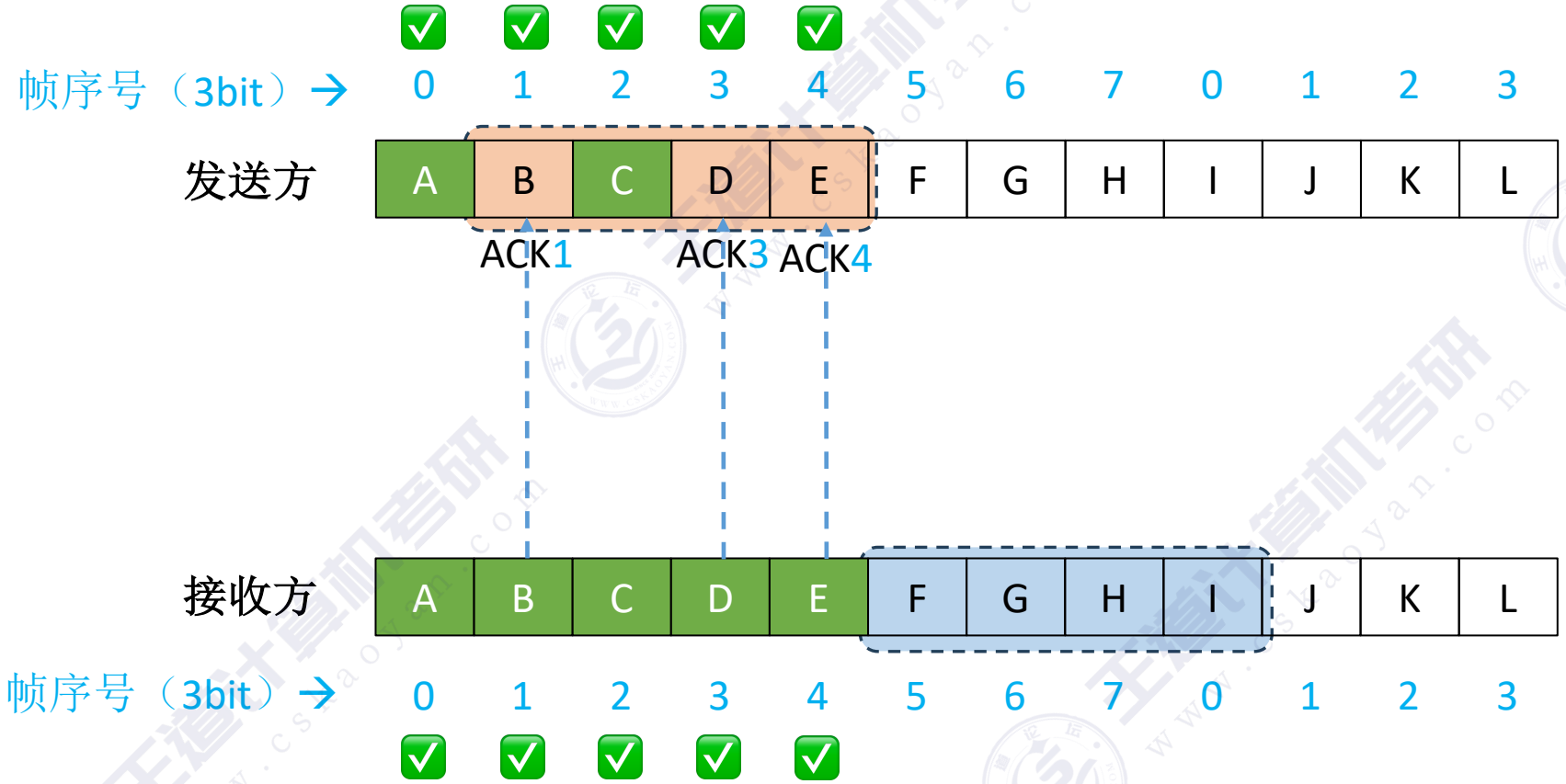

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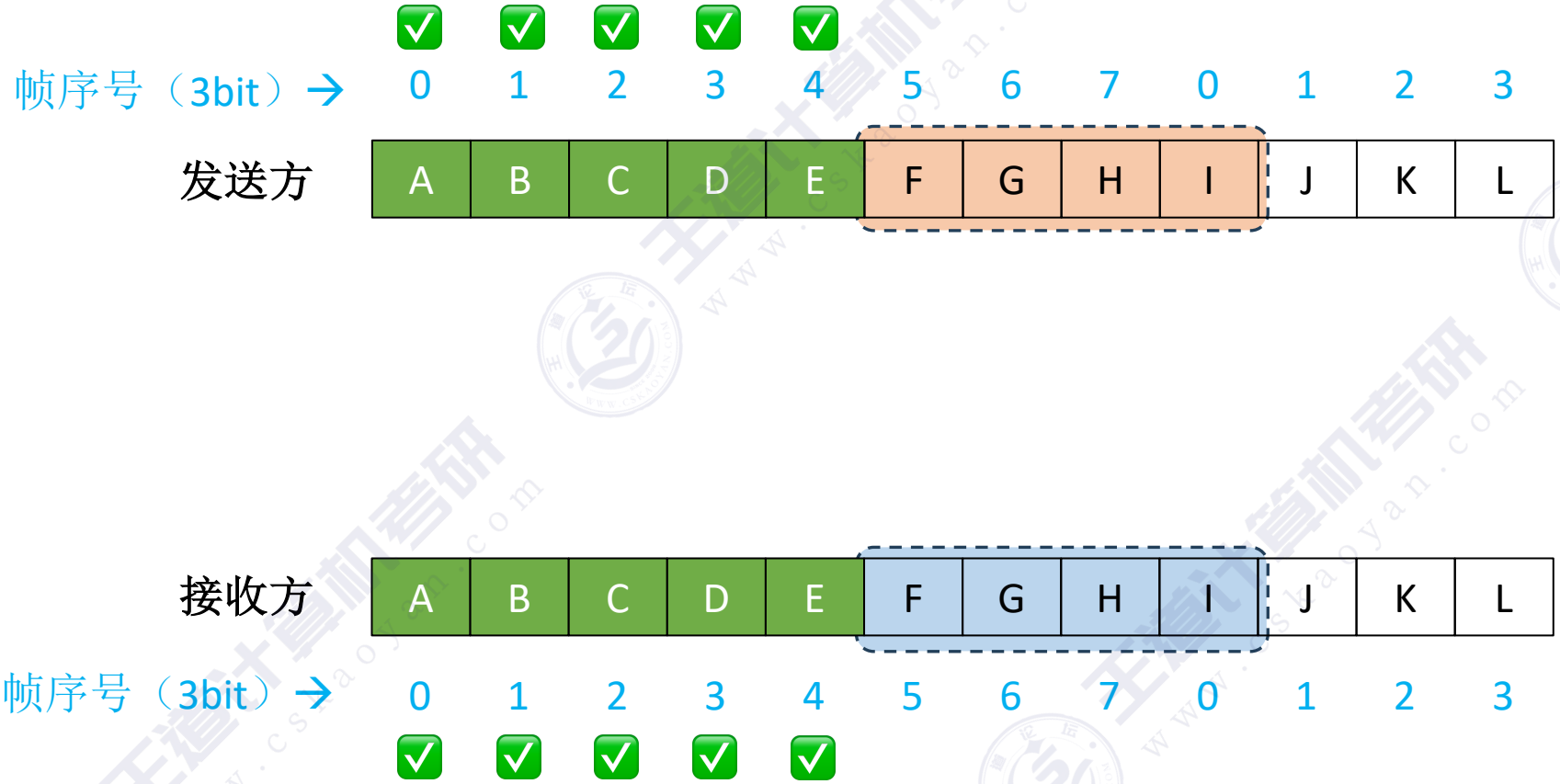
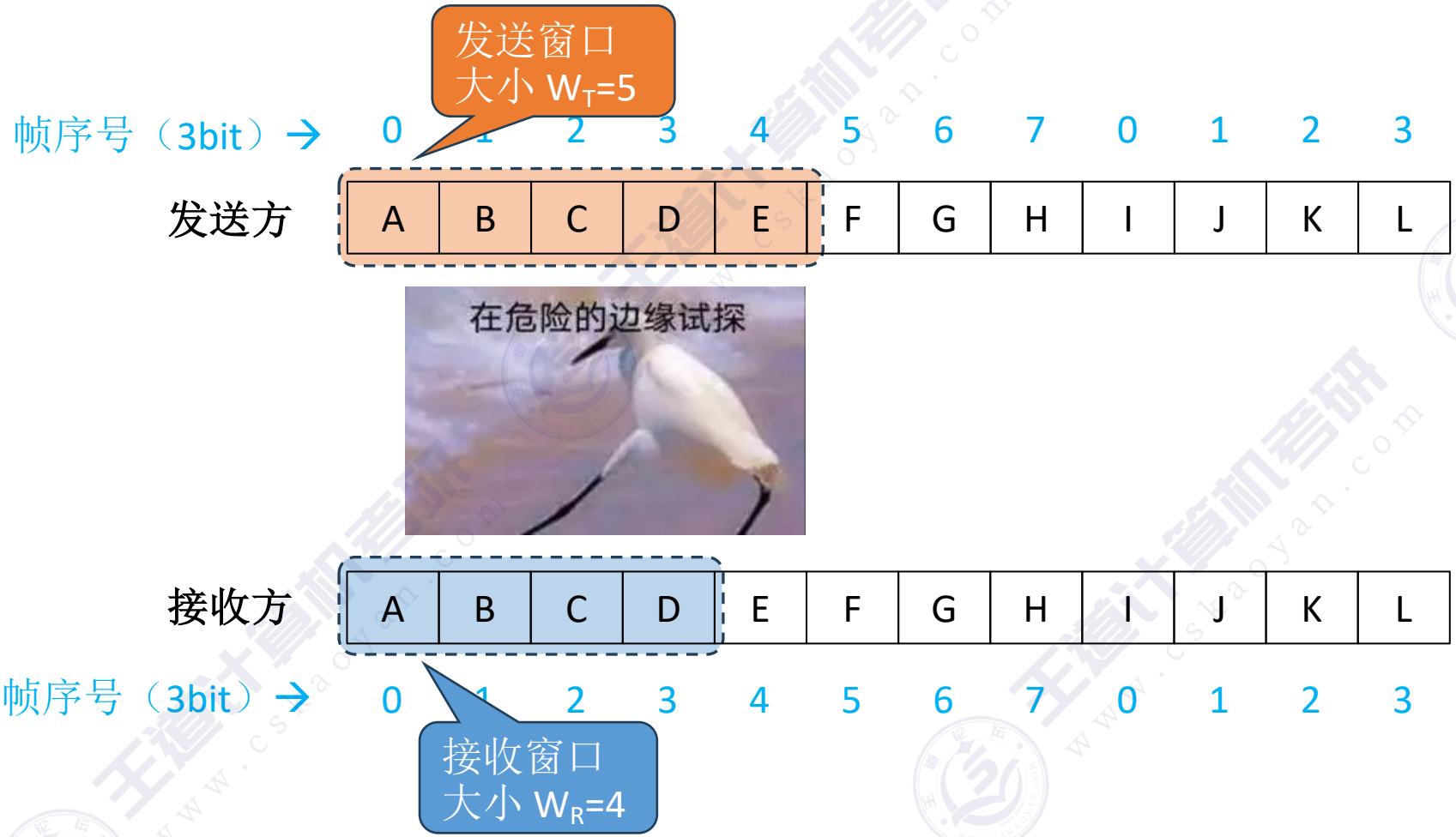


探讨：如果不满足 $W_T + W_R \leq 2^n$ 会有什么问题？



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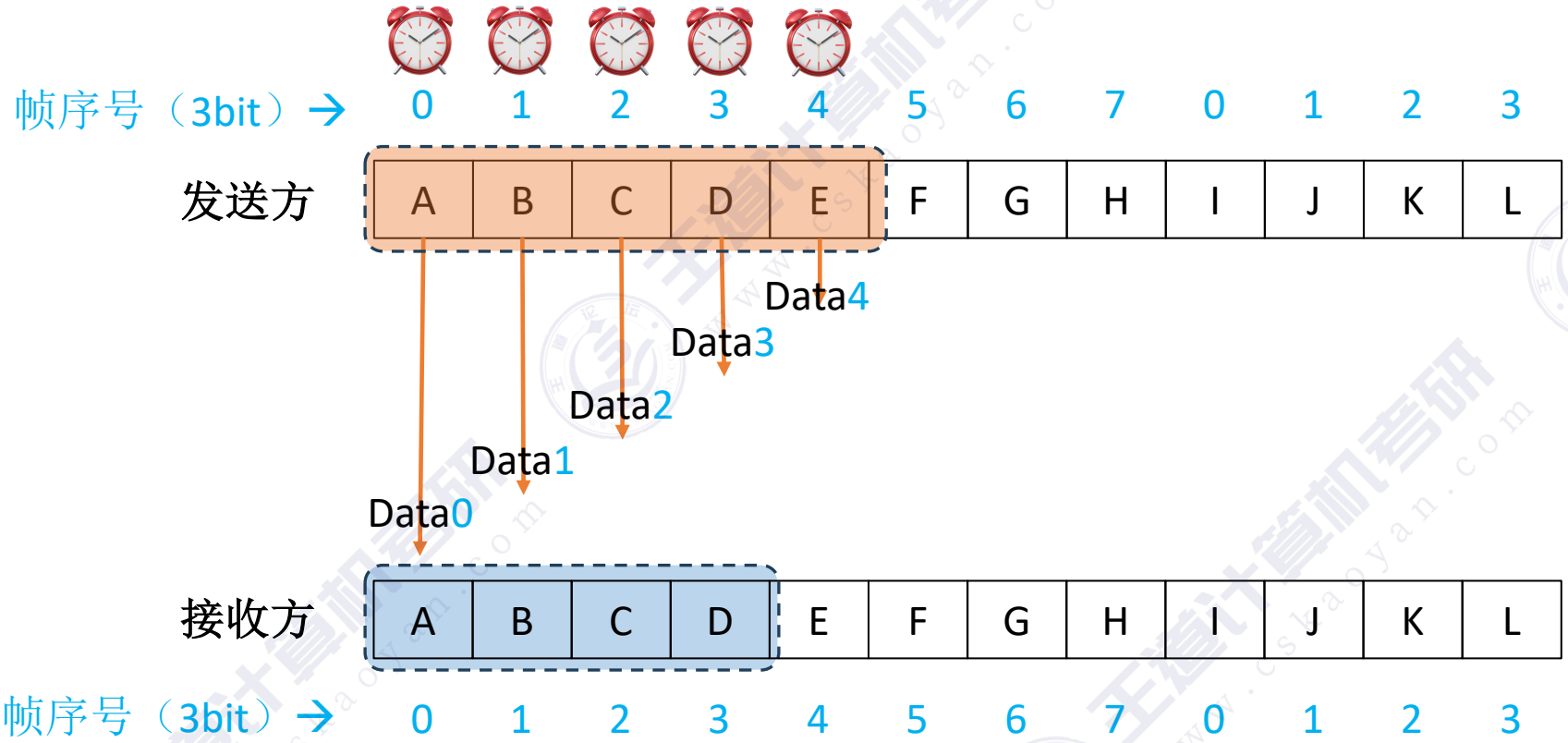

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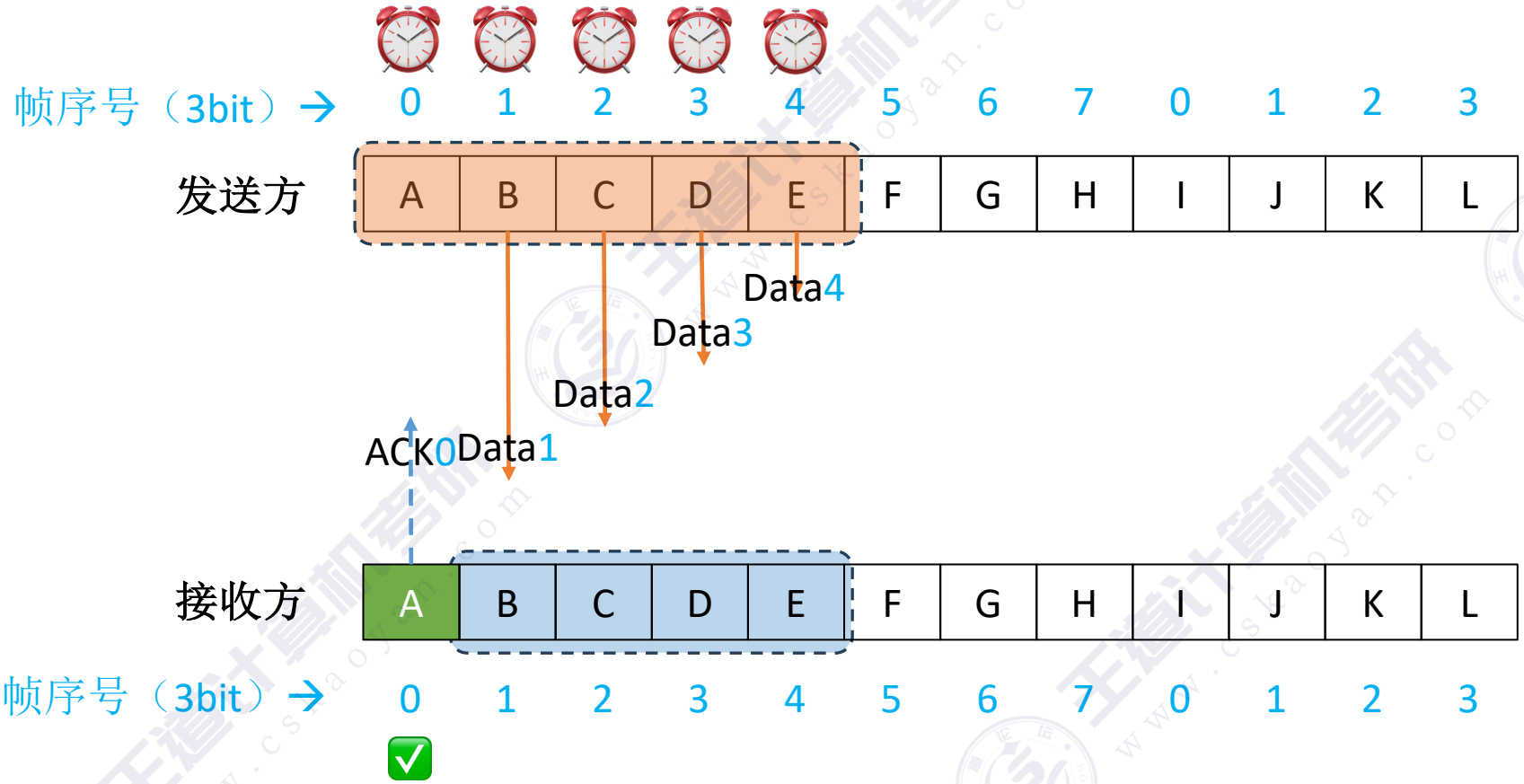

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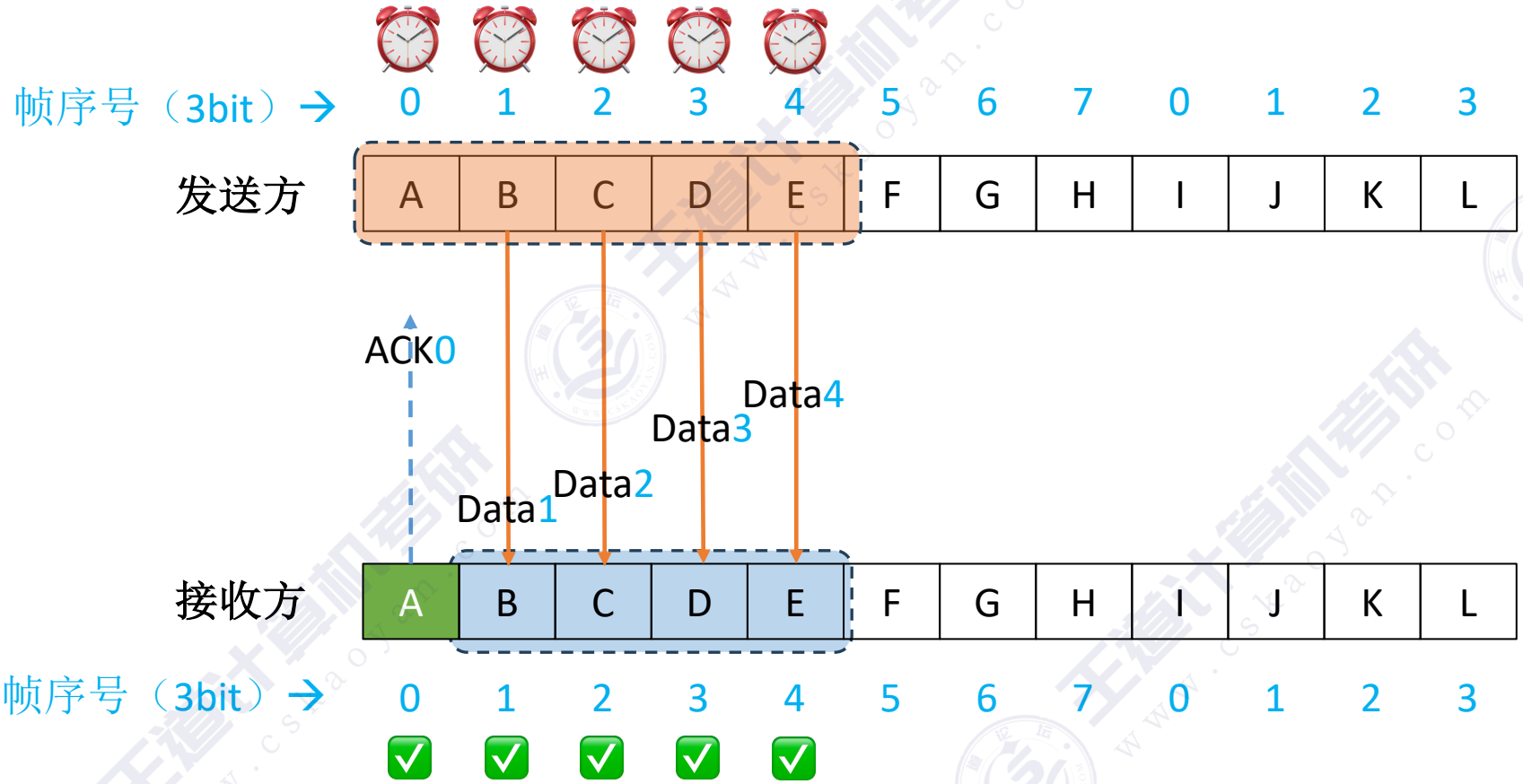

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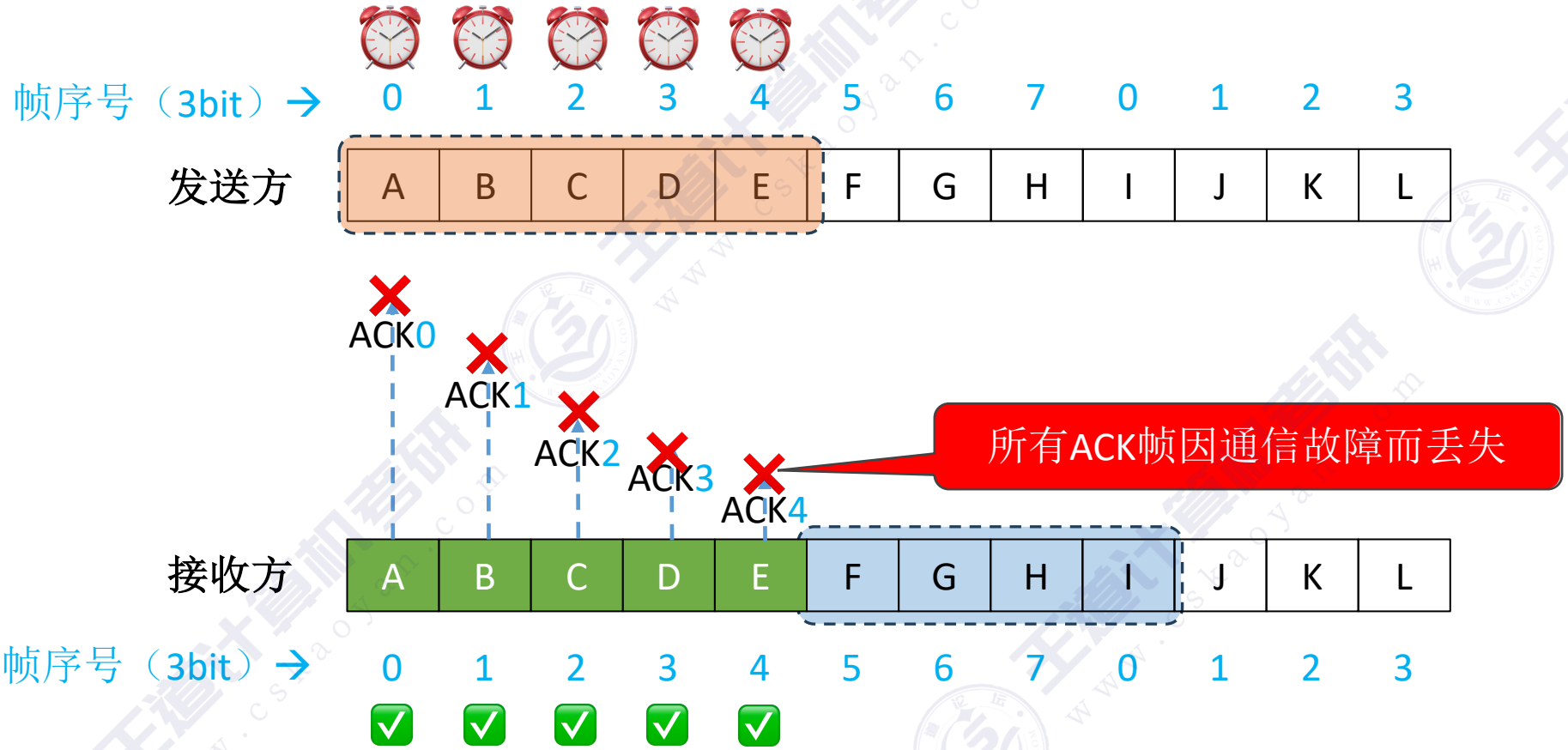

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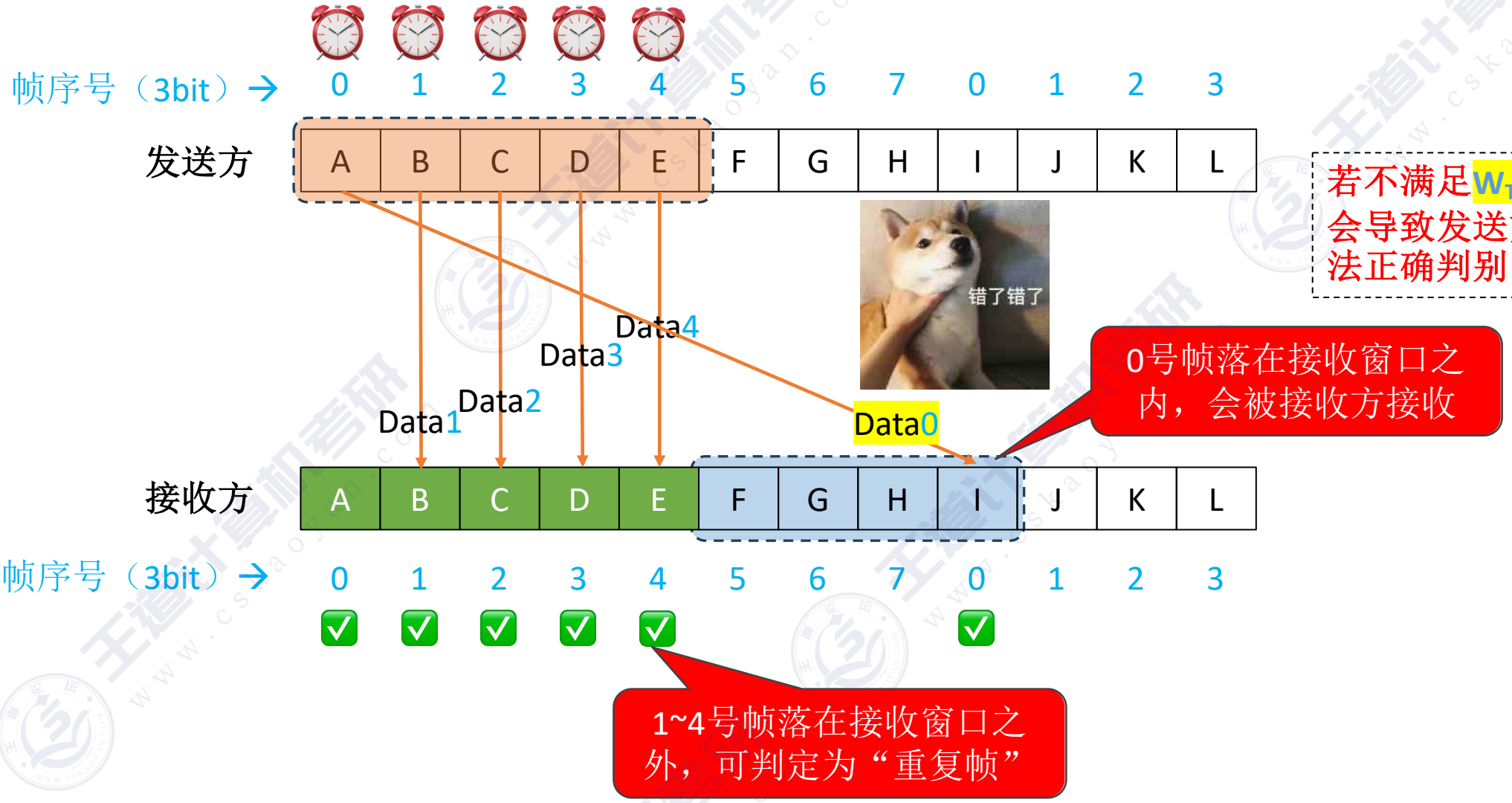

知识回顾与重要考点