

1. 绪论

局限

随机数

As I have said so many times,
God doesn't play dice with the world.

- A. Einstein

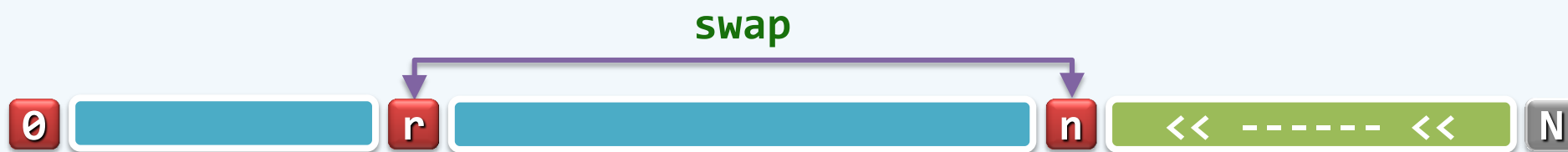
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随机置乱

- ❖ 任给一个数组 $A[0, n)$, 理想地将其中元素的次序**随机**打乱
- ❖ `//[R. Fisher & F. Yates, 1938], [R. Durstenfeld, 1964], [D. E. Knuth, 1969]`

```
void shuffle( int A[], int n )  
    { while ( 1 < n ) swap( A[ rand() % n ], A[ --n ] ); }
```



- ❖ 策略：自后向前，依次将各元素与随机选取的某一前驱（含自身）交换
- ❖ 的确可以等概率地生成所有 $n!$ 种排列？