## K3 → K4 Structural Hints

Game 1: Six-Track Pattern

Class Formula:  $class(i) = ((i \% 2) \times 3) + (i \% 3)$ 

**Class 0:** 0 6 12 18 24 30 36 42 48 54... (17 indices)

**Class 1:** 4 10 16 22 28 34 40 46 52 58... (16 indices)

Class 2: 2 8 14 20 26 32 38 44 50 56... (16 indices)

Class 3: 3 9 15 21 27 33 39 45 51 57... (16 indices)

**Class 4:** 1 7 13 19 25 31 37 43 49 55... (16 indices)

Class 5: 5 11 17 23 29 35 41 47 53 59... (16 indices)

This creates 6 interleaved tracks from the 2/3 pattern. Each track gets  $\sim 16-17$  indices out of 97 total.

## **Game 2: Period Selection**

Testing periods for distinct slot seating

Period	CO	<b>C1</b>	C2	С3	C4	<b>C</b> 5
11	ОК	ОК	ОК	ОК	OK	OK
13	OK	OK	ОК	OK	OK	OK
17	OK	ОК	ОК	ОК	ОК	ОК
19	OK	OK	ОК	ОК	OK	OK

## L=17 chosen:

- Seats all anchor indices on distinct slots
- No collisions for any class
- Satisfies Option-A at all anchor cells

Note: L=11 is smallest but we use L=17 for better distribution

## **Game 3: Family Selection**

Rule: First family that satisfies Option-A at anchors



Family Vector: V V B V B V

This is determined mechanically by Option-A rule:

- 1. Try families in order: [Vigenère, Variant-Beaufort, Beaufort]
- 2. Select first that has no K=0 at anchor cells
- 3. No K4 prose or tail knowledge used