

Exploration Solution

1. Solution:

The possible numbers are

The Digits	The Numbers	Frequency
1, 6, 6	166, 616, 661	3
1, 4, 9	149, 194, 419, 491, 914, 941	6
2, 2, 9	229, 292, 922	3
2, 3, 6	236, 263, 326, 362, 623, 632	6
3, 3, 4	334, 343, 433	3

Scoring:

The total Numbers	Score
20	6
19	3
18	2
17	1

2. Solution:

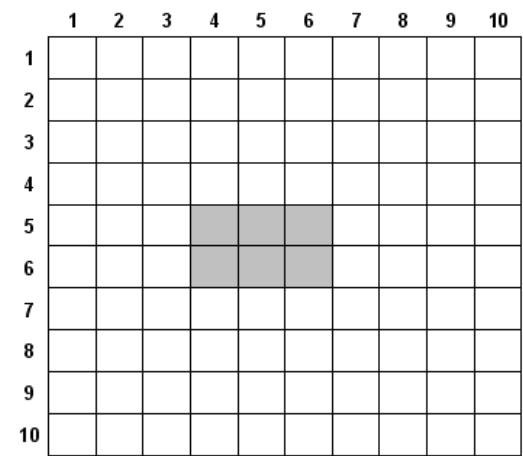
The order of the placement of the square :

A D C B H G F E

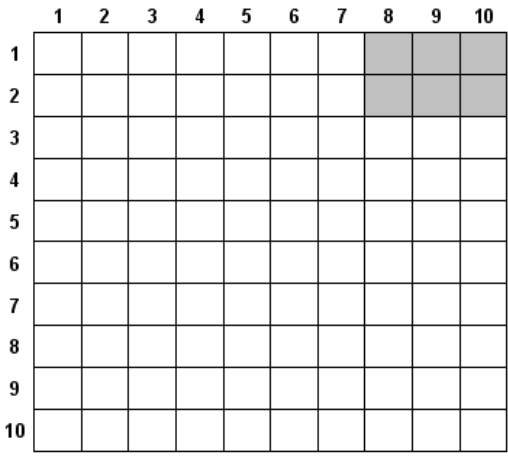
Scoring: (TOTAL SCORE : 6)

length of longest correct sub-sequence	Score
8	6
7	4
6	3
5	2
4	1

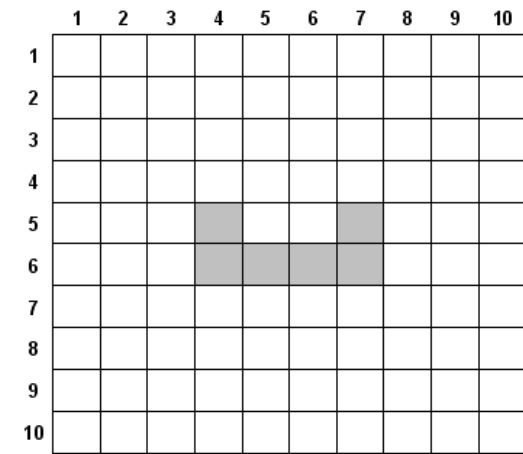
3. Solution:



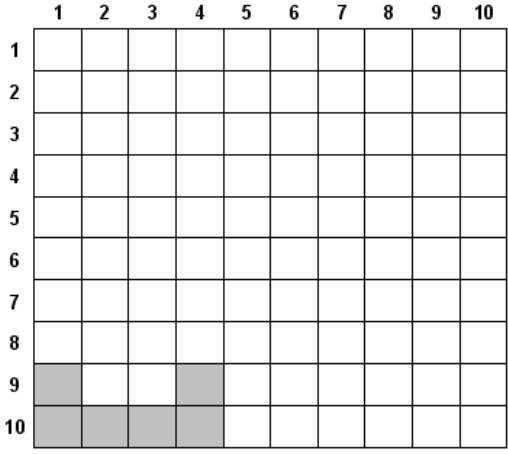
Solution A



Solution B



Solution C



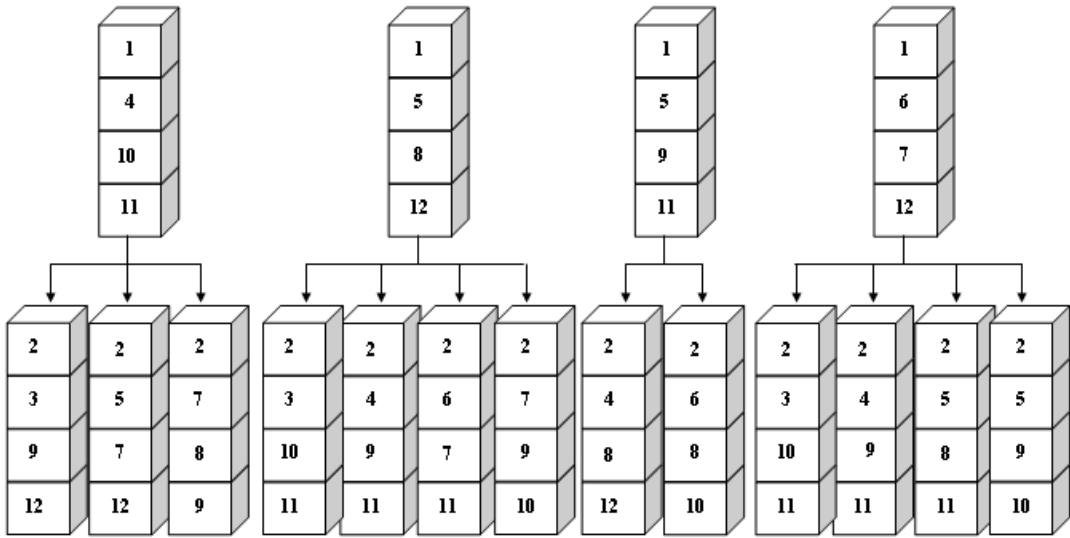
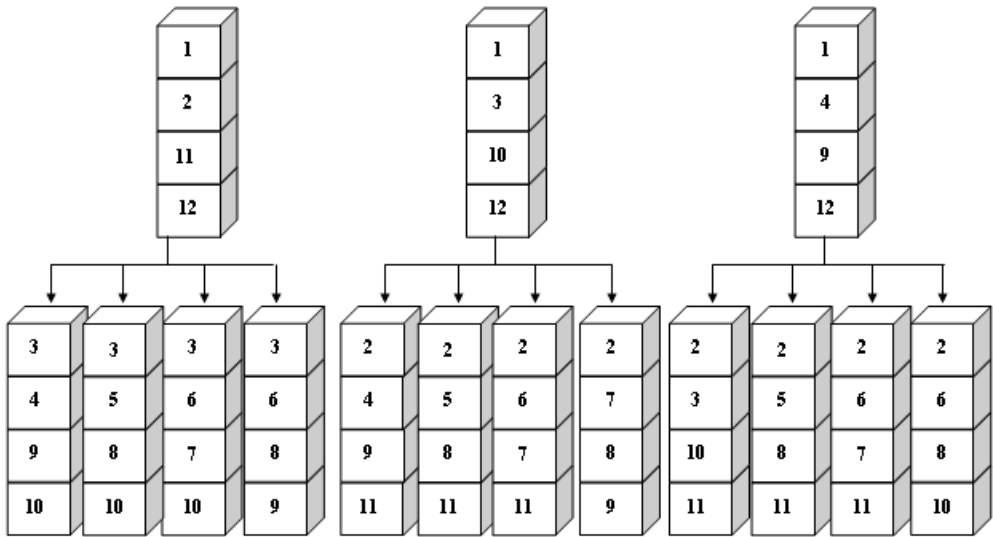
Solution D

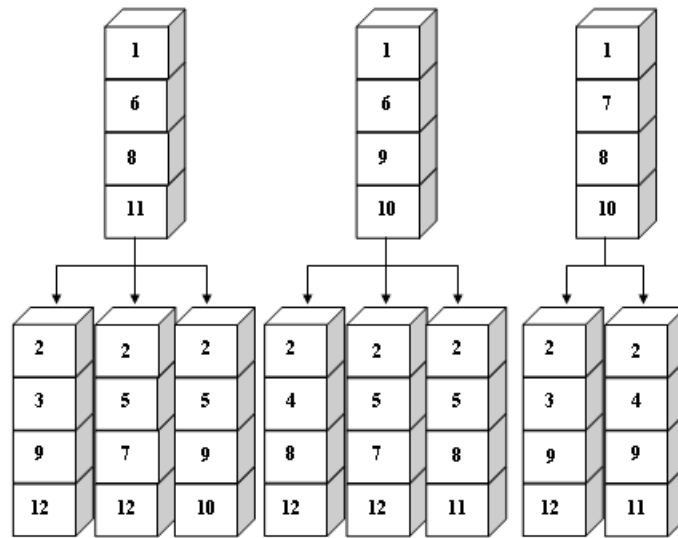
Note: Also for symmetric positions.

Scoring:

N O T E	Score
Answer A	1.5
Answer B	1.5
Answer C	1.5
Answer D	1.5

4. Solution:

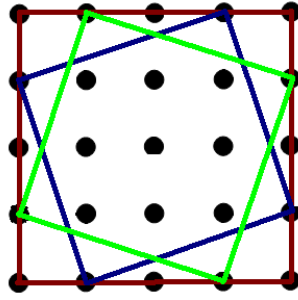




Scoring:

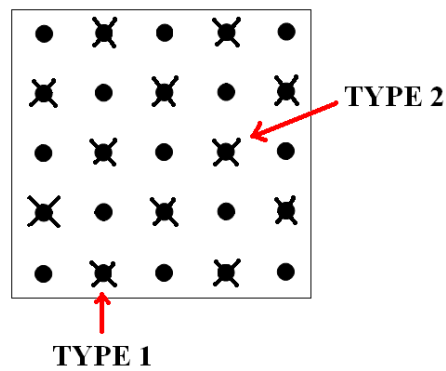
N O T E	Score
≥ 30 correct	6
28 – 29 correct	5.5
26 – 27 correct	5
24 – 25 correct	4.5
22 – 23 correct	4
20 – 21 correct	3.5
18 – 19 correct	3
16 – 17 correct	2.5
14 – 15 correct	2
12 – 13 correct	1.5
10 – 11 correct	1

5. **Solution 5A:**



Scoring: 1 point each square.

Solution 5B:



Scoring:

- $\frac{1}{2}$ point for marking at least one pin of type 1
(+ 1 point for marking all six pins of type 1).
- 1 point for marking at least one pin of type 2
(+ $\frac{1}{2}$ point for marking all four pins of type 1).
- - $\frac{1}{2}$ for every incorrect pin (minimum total score is 0).

6. Solution:

		COLUMN					
		C1	C2	C3	C4	C5	C6
ROW	R1	2	6	3	1	4	5
	R2	9	5	7	8	6	4
	R3	3	4	5	6	7	8
	R4	7	3	2	8	9	1
	R5	9	2	1	7	8	9
	R6	4	1	3	5	6	2

Scoring: $\frac{1}{2}$ point for each correct answer for a certain row/ column.