

1. State :

9 soldiers trapped in a bomb shelter represented as an array that has 13 element array as shelter cells with the unoccupied spaces as zero

Initial State:

the initial state in the given figure can be represented as [0,2, 3, 4, 5, 6, 7, 8, 9, 1, 0, 0, 0, 0].

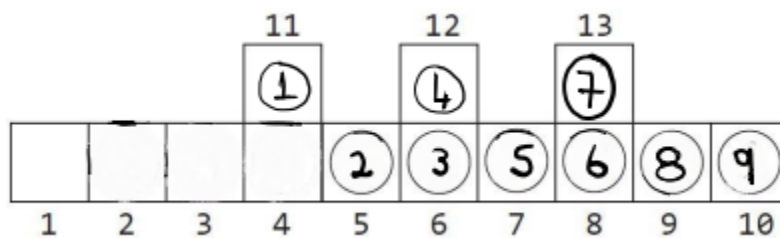
Goal state :

The goal state is when soldier 1 is in cell number 1, soldier 2 in cell number 2, and so on up to soldier 9 in cell number 9. The remaining cells (10, 11, 12, 13) are empty. So, the goal state can be represented as [1, 2, 3, 4, 5, 6, 7, 8, 9, 0, 0, 0, 0, 0].

The Moves / Actions :

A move is defined as moving a soldier from its current cell to an adjacent empty cell. A move is only valid if the cells i and j are adjacent and j is empty.

2.



Step 2 : a

					4		7					
			1	2	3	5	6	8	9			

b

			1		4		7					
			2	0	3	5	6	8	9			

Step 3 : from a

					4		7					
		1	0	2	3	5	6	8	9			