



To keep track of remaining candidates use a 10x10x10 array

```
int[][][] P = new int[10][10][10];
```

$$P[i][j][k] = \begin{cases} 0 & \text{if } k \text{ is not a candidate for cell } (i, j) \\ 1 & \text{if } k \text{ is a candidate for cell } (i, j) \end{cases}$$

for  $1 \leq k \leq 9$ . for  $k=0$  define

$P[i][j][0]$  = # of remaining candidates for cell  $(i, j)$

Ex.

• candidates for cell (1, 3)

1 2 ~~3~~ 4 ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~

P[1][3][ ]

0	1	2	3	4	5	6	7	8	9
3	1	1	0	1	0	0	0	0	0

• candidates for cell (7, 5)

~~1~~ ~~2~~ ~~3~~ ~~4~~ 5 ~~6~~ ~~7~~ ~~8~~ ~~9~~

P[7][5][ ]

0	1	2	3	4	5	6	7	8	9
2	0	0	1	0	1	0	0	0	0

• candidates for cell (7, 6)

~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ 6 7 ~~8~~ ~~9~~

P[7][6][ ]

0	1	2	3	4	5	6	7	8	9
1	0	0	0	0	0	0	1	0	0

set S[7][6] = 7