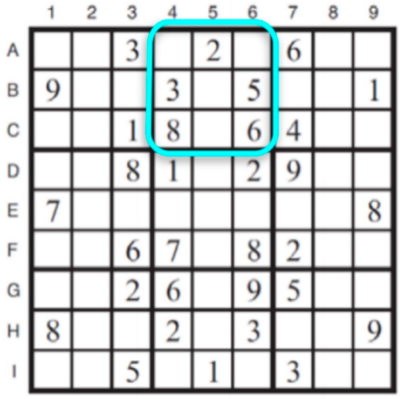
Consider the Sudoku puzzle below. Each variable is named by its row and its column (see Programming “Introduction” for an example). Recall each variable must be assigned a value from 1 to 9 subject to the constraint that no two cells in the same row, column, or box may contain the same value.



	1	2	3	4	5	6	7	8	9
A			3		2		6		
B	9			3		5			1
C			1	8		6	4		
D			8	1		2	9		
E	7								8
F			6	7		8	2		
G			2	6		9	5		
H	8			2		3			9
I			5		1		3		

1. List the names of the variables in the blue circle and their corresponding initial value domains.

   A4 [1,2,3,4,5,6,7,8,9]
   A5 fixed to 2
   A6 [1,2,3,4,5,6,7,8,9]
   B4 fixed to 3
   B5 [1,2,3,4,5,6,7,8,9]
   B6 fixed to 6
   C4 fixed to 8
   C5 [1,2,3,4,5,6,7,8,9].
   C6 fixed to 6

A4: [1…9]	**A5:2**	**A6: [1…9]**
B4:3	**B5: [1…9]**	**B6:5**
C4:8	**C5: [1…9]**	**C6:6**

2. Reduce the domain for the four unassigned variables in question 1 by enforcing arc constraints using the entire puzzle board. List the new domains.

A4: [4,9]	**A5:2**	**A6: [1,4,7]**
B4:3	**B5: [4,7]**	**B6:5**
C4:8	**C5: [7,9]**	**C6:6**

A4: [4,9]
A6: [1,4,7]
B5: [4,7]
C5: [7,9]

Above is my answer.
(Below is the domain after arc-consistency, just for trying it)

[4,5]	[4,5,7,8]	3	[4,**9**]	2	[**1**,4,7]	6	[5,7,8,9]	[**5**,7]]
9	[2,4,7,8]	[4,7]	8	[**7**,9]	6	[7,8]	[2,7,8]	1
[2,5]	[2,5,7]	1	3	[**4**,7]	5	4	[2,3,5,7,9]	[2,3,5,7]
		8	1	[3,4,5,6]	2	9		
7			[4,**5**]	[3,4,5,6,9]	[4]			8
		6	7	[3,4,5,9]	8	2		
		2	6	[4,7,8]	9	5		
8			2	[4,5,7]	3			9
		5	[**4**]	1	[4,**7**]	3		

A4: [9]	A5:2	A6: [1]
B4:3	B5: [4]	B6:5
C4:8	C5: [7]	C6:6

3. Assume we have to choose one of the four unassigned variables in question 2 to explore further. Using the minimum remaining value heuristic, which variable or variables should we explore next?

A4, B5, C5

4. Assume we choose A4 to explore next and assume that A6, B5, C5 are the last three remaining variables waiting to be assigned. Using least constraining value rule, which value of A4 should be tried first?

Try A4 = 9 first.

Because it only reduces two values from the domain of other variable compared to A4 = 4 reduces three values from other domains.