

A Sudoku puzzle uses a  $9 \times 9$  grid in which each column and row, as well as each of the nine  $3 \times 3$  subgrids, must contain all of the digits  $1 \cdot \cdot \cdot 9$ . Below Figure presents an example of a valid Sudoku puzzle. This project consists of designing a multithreaded application that determines whether the solution to a Sudoku puzzle is valid. There are several different ways of multithreading this application. The  $9 \times 9$  grid value may be taken inside a 2 dimensional array. One suggested strategy is to create threads that check the following criteria:

- A thread to check that each column contains the digits 1 through 9.
- A thread to check that each row contains the digits 1 through 9.
- Nine threads to check that each of the  $3 \times 3$  subgrids contains the digits 1 through 9.

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