Sudominoku
by Clark D. Rodeffer

Overview
Sudominoku is a domino puzzle-game for one to six players. The goal is to get rid of your tiles by using them to fill in a Sudoku grid.

Equipment
- A double nine set of dominoes with all of the blanks and doubles removed, leaving 36 tiles,
- A flat nine by nine square grid, subdivided into nine three by three square grids such that a single tile exactly covers two squares,
- A set of nine numbered markers, each small enough to fit within a square on the board (In a pinch, either the blanks or the doubles from the domino set could be used by standing them upright.), and
- Some means of keeping score.

Method of Play
1) Choose a starting player by any fair and agreeable method. Turns proceed clockwise.

2) After shuffling the tiles face-down, each player draws as many tiles as possible so that everyone gets the same number of tiles. In a game with five players, there will be one tile remaining after the draw. This tile is turned face-up where everyone can see it.

3) Players take turns placing any one of the nine numbered markers onto different spaces on the board. Some will place more markers than others. This is fine. There are two restrictions for placement of the markers:

   - Do not place the markers such that they enclose an odd number of empty spaces, whether by themselves or against an edge or corner of the board. An example of marker placement that violates this restriction is shown in Figure 1.

   - If markers are placed such that they leave a single row of open spaces (either between rows of markers or along one edge of the board), and at least one end of that single row of open spaces is closed off (again, either by a marker or an edge of the board), make sure that any enclosed branches (rows of open spaces perpendicular to the single row) of both an odd length and width are spaced an even number of spaces apart and away from any closed off ends. This sounds much more complicated than it really is. Once grasped, the rule is simple. An example of marker placement that violates this restriction is shown in Figure 2.

   Once placed, markers do not move. Two good examples of the myriad possible initial marker positions are shown in Figures 3 and 4.
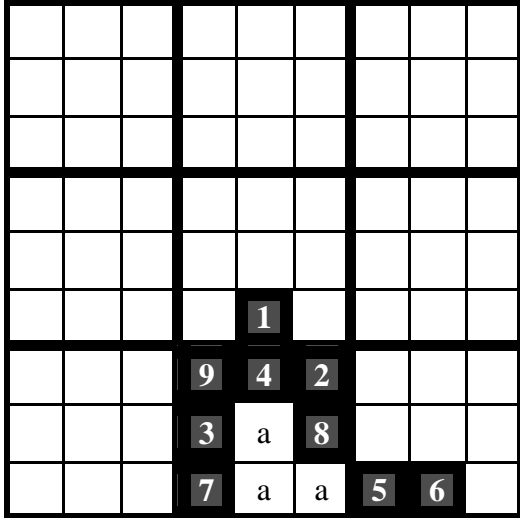
Figure 1. Markers must not be placed so that they create a separate area having an odd number of squares. Since each tile covers exactly two squares, there is no arrangement of tiles that can cover all of the squares marked "a."
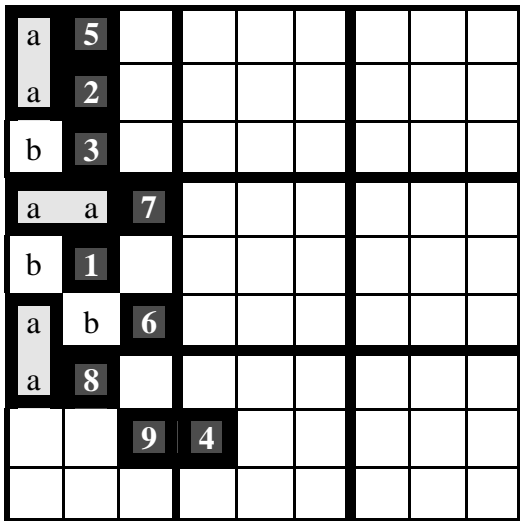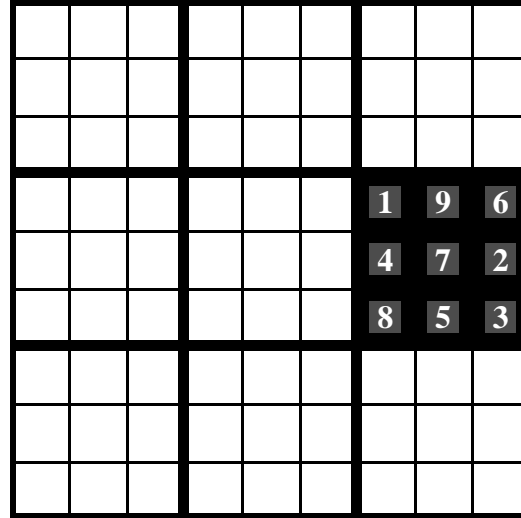
Figure 3. A good initial marker placement leaves no empty squares that cannot be covered by tiles. This is just one of many possible good arrangements.

Figure 2. Markers must not be placed so that they create branches of odd length and width. Tiles played at the positions marked "a" prevent any tiles from being played in the squares marked "b." No matter what positions are chosen for the "a" tiles, the branches guarantee that there will be at least two squares that cannot be covered by tiles.
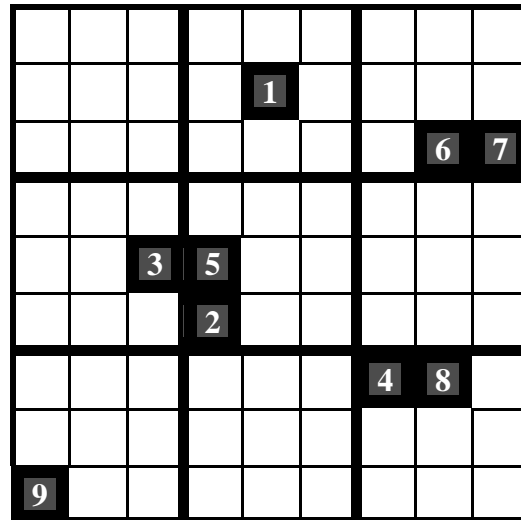
Figure 4. Markers may, but need not touch one another. The only restrictions are that they must not section off an odd number of squares, nor may they create branches that will inevitably lead to unplayable single squares.

4) Beginning with the player immediately clockwise from the player who placed the last numbered marker, players take turns doing one of the following two actions:

- Place one tile from their hands onto the board, or
- Move one tile that is already on the board to another location.

Tiles may be placed either vertically or horizontally, with the following restrictions:

- While tiles *may* be played so that each end is in a different three by three subdivision, both ends of the tile must be within the overall nine by nine grid,
- The tile must cover exactly two empty board spaces, and
- Tiles must be placed such that no number appears more than once in any row, column or three by three subdivision.

In a multi-player game, when one person plays the last of his tiles, everyone else adds up the pips on all the tiles remaining in their hands and records these scores. The player with the lowest score when someone's score reaches or exceeds 500 points wins.

Solitaire Puzzle
For a solitaire challenge, play markers and tiles according to the usual multi-player rules. You win if you can play all 36 tiles. Most boards have at least one solution.

This is Sudominoku version 1.3.0 by Clark D. Rodeffer, October 4, 2006.