Problem Link:

<https://leetcode.com/problems/sudoku-solver/description/?envType=daily-question&envId=2025-08-31>

Solution:

class Solution {

public:

void solveSudoku(vector<vector<char>>& board) {

solve(board);

}

private:

bool solve(vector<vector<char>>& board) {

for(int r = 0; r < 9; ++r)

{

for(int c = 0; c < 9; ++c)

{

if(board[r][c] == '.')

{

for(char ch = '1'; ch <= '9'; ++ch)

{

if(isValid(board, r, c, ch))

{

board[r][c] = ch;

if(solve(board))

return true;

board[r][c] = '.';

}

}

return false;

}

}

}

return true;

}

bool isValid(vector<vector<char>>& board, int r, int c, char ch) {

for(int i = 0; i < 9; ++i)

{

if(board[r][i] == ch)

return false;

if(board[i][c] == ch)

return false;

int br = 3 \* (r / 3) + i / 3;

int bc = 3 \* (c / 3) + i % 3;

if(board[br][bc] == ch)

return false;

}

return true;

}

};