

64) Determine if a 9 x 9 Sudoku board is valid. Only the filled cells need to be validated according to the following rules:

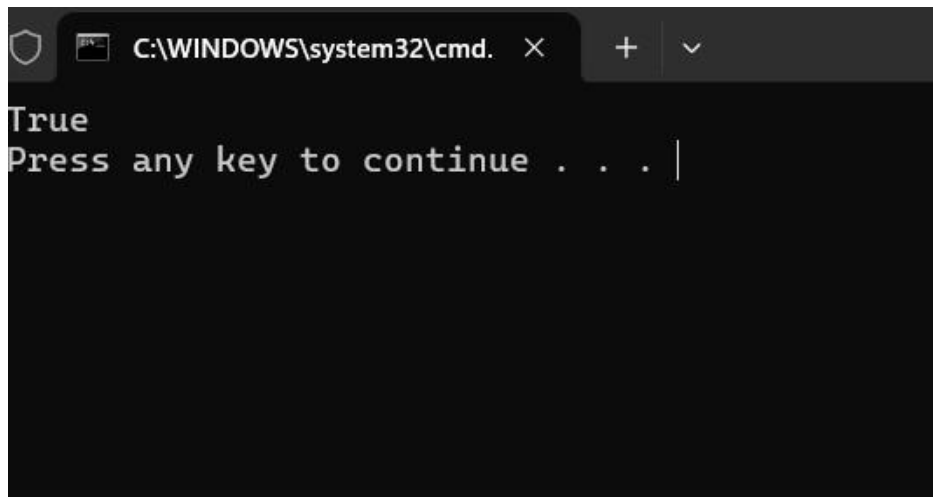
CODE:

```
def isValidSudoku(board):    rows = [set()
for _ in range(9)]    columns = [set() for _ in
range(9)]    boxes = [set() for _ in range(9)]
    for i in range(9):        for j in
range(9):            if board[i][j] != '.':
num = board[i][j]
                box_index = (i // 3) * 3 + (j // 3)
                    if num in rows[i] or num in columns[j] or num in boxes[box_index]:
                        return False

                rows[i].add(num)                columns[j].add(num)
boxes[box_index].add(num)

    return True
board = [
    ["5","3",".",".","7",".",".",".","."],
    ["6",".",".","1","9","5",".",".","."],
    [".","9","8",".",".",".","6","."],
    ["8",".",".","6",".",".","3"],
    ["4",".","8",".","3",".","1"],
    ["7",".","2",".","","6"],
    [".","6",".","","2","8","."],
    [".","4","1","9",".","5"],
    [".","8",".","7","9"]
] print(isValidSudoku(board))
```

OUTPUT:



```
C:\WINDOWS\system32\cmd.  X  +  v
True
Press any key to continue . . . |
```

TIME COMPLEXITY : $O(n)$