SUDOKU PROBLEM

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SUDOKU CODE:

```python
import numpy as np

N = 3
valid_inputs = [1, 2, 3]
matrix = np.zeros((N, N))

def isSafe(matrix, row, col, num):
    # Check row
    for i in range(N):
        if matrix[row][i] == num:
            return False

    # Check column
    for i in range(N):
        if matrix[i][col] == num:
            return False

    return True
```

```python
def solvematrix(matrix, row, col):
    if row == N - 1 and col == N:
        return True

    # Move to the next row if column exceeds
    if col == N:      You, 2 weeks ago • sudoku
        row += 1
        col = 0

    # Skip filled cells
    if matrix[row][col] != 0:
        return solvematrix(matrix, row, col + 1)

    # Try filling the cell with each valid input
    for num in valid_inputs:
        if isSafe(matrix, row, col, num):
            matrix[row][col] = num
            if solvematrix(matrix, row, col + 1):
                return True
            matrix[row][col] = 0  # Backtrack if solution not found

    return False
```

```
if solvematrix(matrix, 0, 0):
    print("Solution found:")
    print(matrix)
else:
    print("No solution exists.")
```

OUTPUT:

```
4/Artifical Intellgence - F2/L
AB/sudoku2.py"
Solution found:
[[1. 2. 3.]
 [2. 3. 1.]
 [3. 1. 2.]]
```