Function Possible manipulations(Desired manipulation, Desired location, Current grid):

Squares = {

1: ['1a', '1b', '1c', '2a', '2b', '2c', '3a', '3b', '3c'],

2: ['4a', '4b', '4c', '5a', '5b', '5c', '6a', '6b', '6c'],

3: ['7a', '7b', '7c', '8a', '8b', '8c', '9a', '9b', '9c'],

4: ['1d', '1e', '1f', '2d', '2e', '2f', '3d', '3e', '3f'],

5: ['4d', '4e', '4f', '5d', '5e', '5f', '6d', '6e', '6f'],

6: ['7d', '7e', '7f', '8d', '8e', '8f', '9d', '9e', '9f'],

7: ['1g', '1h', '1i', '2g', '2h', '2i', '3g', '3h', '3i'],

8: ['4g', '4h', '4i', '5g', '5h', '5i', '6g', '6h', '6i'],

9: ['7g', '7h', '7i', '8g', '8h', '8i', '9g', '9h', '9i']

}

Row, column => int(Desired location[0]), Desired location[1]

Used numbers => Set()

For i in Range(1, 10):

Used numbers.add(Current grid[Row + i, column])

Used numbers.add(Current grid[i, Row + column])

For Each Square in Squares:

If Desired location in Square:

For Each Item in Square:

Used numbers.add(Current grid[Item])

if desired manipulation == "S":

possible numbers => set(range(1, 10)) - used numbers

return sorted(possible numbers)

elif int(desired manipulation) in used numbers:

print("That number is already in use in your column or row.")

return False

else:

print("That number can be placed in the desired location.")

return True