File - C:\Users\Matthias\Documents\Spring 2018\Ai\Assignments\Assignment04\driver.py

```
from csp_lib.sudoku import (Sudoku, easy1, harder1)
from constraint_prop import AC3
from csp_lib.backtrack_util import mrv, mac
from backtrack import backtracking_search
import queue

for puzzle in [easy1, harder1]:
    s = Sudoku(puzzle)  # construct a Sudoku problem
    s.display(s.infer_assignment())
    constraints_satisfied = AC3(s)  # returns true or false This is to trigger Backtrack_search, Revise alters domains
    if constraints_satisfied is False:
        solved = backtracking_search(csp=s, select_unassigned_variable=mrv, inference=mac)
        if solved is not None:
            print("backtrack search solution:")
            s.display(s.infer_assignment())
        else:
            print("This sudoku puzzle is not solvable")
    else:
        s.display(s.infer_assignment())  # will display an updated board, because e was manipulated inside algorithm using revise def
        # or do I test to see if its solved, # goalstate


'''Output
. . 3 | . 2 . | 6 . .
9 . . | 3 . 5 | . . 1
. . 1 | 8 . 6 | 4 . .
------+-------+------
. . 8 | 1 . 2 | 9 . .
7 . . | . . . | . . 8
. . 6 | 7 . 8 | 2 . .
------+-------+------
. . 2 | 6 . 9 | 5 . .
8 . . | 2 . 3 | . . 9
. . 5 | . 1 . | 3 . .
True
4 8 3 | 9 2 1 | 6 5 7
9 6 7 | 3 4 5 | 8 2 1
2 5 1 | 8 7 6 | 4 9 3
------+-------+------
5 4 8 | 1 3 2 | 9 7 6
7 2 9 | 5 6 4 | 1 3 8
1 3 6 | 7 9 8 | 2 4 5
------+-------+------
3 7 2 | 6 8 9 | 5 1 4
8 1 4 | 2 5 3 | 7 6 9
6 9 5 | 4 1 7 | 3 8 2
4 1 7 | 3 6 9 | 8 . 5
. 3 . | . . . | . . .
. . . | 7 . . | . . .
------+-------+------
. 2 . | . . . | . 6 .
. . . | . 8 . | 4 . .
. . . | . 1 . | . . .
------+-------+------
. . . | 6 . 3 | . 7 .
5 . . | 2 . . | . . .
1 . 4 | . . . | . . .
True
4 1 7 | 3 6 9 | 8 2 5
6 3 2 | 1 5 8 | 9 4 7
9 5 8 | 7 2 4 | 3 1 6
------+-------+------
8 2 5 | 4 3 7 | 1 6 9
7 9 1 | 5 8 6 | 4 3 2
3 4 6 | 9 1 2 | 7 5 8
------+-------+------
2 8 9 | 6 4 3 | 5 7 1
5 7 3 | 2 9 1 | 6 8 4
1 6 4 | 8 7 5 | 2 9 3

Process finished with exit code 0



'''
```