Backtracking w/ inference

function BACKTRACKING_SEARCH(csp) returns a solution, or failure
    return BACKTRACK({}, csp)

function BACKTRACK(assignment, csp)
returns a solution, or failure
    if assignment is complete **then return** assignment
    var = SELECT_UNASSIGNED-VARIABLES(csp)
    for each value in ORDER_DOMAIN_VALUES (var, assignment, csp)
        if value is consistent with assignment **then**
            add {var = value} to assignment

            inferences = INFERENCE(csp, var, value)
            if inferences $\neq$ failure **then** add inferences to assignment

            result = BACKTRACK(assignment, csp)
            if result $\neq$ failure **then** *return* result
            remove {var = value} and inferences from assignment
    return failure