

```
1
2
3 from csp_lib.backtrack_util import (first_unassigned_variable,
4                                     unordered_domain_values,
5                                     no_inference)
6
7 def backtracking_search(csp,
8                         select_unassigned_variable=first_unassigned_variable,
9                         order_domain_values=unordered_domain_values,
10                        inference=no_inference):
11     """backtracking_search
12     Given a constraint satisfaction problem (CSP),
13     a function handle for selecting variables,
14     a function handle for selecting elements of a domain,
15     and a set of inferences, solve the CSP using backtrack search
16     """
17
18     # See Figure 6.5] of your book for details
19
20     def backtrack(assignment):
21         """Attempt to backtrack search with current assignment
22         Returns None if there is no solution. Otherwise, the
23         csp should be in a goal state.
24         """
25
26         raise NotImplemented
27
28     # Call with empty assignments, variables accessed
29     # through dynamic scoping (variables in outer
30     # scope can be accessed in Python)
31     result = backtrack({})
32     assert result is None or csp.goal_test(result)
33     return result
34
```