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PSSP( $S_0, G$ )
1  $S \leftarrow S_0$ 
2  $\pi \leftarrow$  empty plan
3 loop
4   if  $G \subseteq S$ 
5     return  $\pi$ 
6   actions  $\leftarrow$  set of applicable actions in  $S$ 
7   if actions is empty
8     return failure
9   choose  $a \in$  actions      ▷ choose an action
10   $S \leftarrow \gamma(S, a)$     ▷ progress to new state
11   $\pi \leftarrow \pi \circ a$       ▷ update plan

```

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BSSP( $S_0, G$ )
1  $G' \leftarrow G$ 
2  $\pi \leftarrow$  empty plan
3 loop
4   if  $G' \subseteq S_0$ 
5     if  $G \subseteq \gamma(S_0, \pi)$  then return  $\pi$ 
6     else return failure
7   actions  $\leftarrow$  set of relevant actions for  $G'$ 
8   if actions is empty
9     return failure
10  choose  $a \in$  actions      ▷ choose an action
11   $G' \leftarrow \gamma^{-1}(G', a)$  ▷ regress to new goal
12   $\pi \leftarrow \pi \circ a$       ▷ update plan

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GSP(givenState, givenGoal, actions)  PUSHSET( $G, stack$ )
1  $\pi \leftarrow$  empty plan              1 push  $G$  to stack
2 stack  $\leftarrow$  empty stack           2 for each goal  $g$  in  $G$ 
3  $S \leftarrow$  givenState              3   push  $g$  to stack
4 PUSHSET(givenGoal, stack)          4 return
5 while stack is not empty           PROGRESS( $S, a$ )
6    $X \leftarrow$  pop stack               1 return ( $S \cup$  add-effects( $a$ )) \ del-effects( $a$ )
7   if  $X$  is an action  $a$ 
8      $\pi \leftarrow \pi \circ a$ 
9      $S \leftarrow$  PROGRESS( $S, a$ )
10  else if  $X$  is a compound goal  $G$ , and  $G$  is not true in  $S$ 
11    PUSHSET( $G, stack$ )
12  else if  $X$  is a goal  $g$ , and  $g$  is not true in  $S$ 
13     $a \leftarrow$  choose a relevant action that achieves  $g$ 
14    if  $a$  is null then return failure
15    push  $a$  to stack
16    PUSHSET(pre( $a$ ), stack)

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PSP( $\pi$ )
1 flaws  $\leftarrow$  OPENGOALS( $\pi$ )  $\cup$  THREATS( $\pi$ )
2 if flaws is empty
3   return  $\pi$       ▷ a plan with no flaws
4 choose  $\phi \in$  flaws      ▷ choose a flaw
5 resolvers  $\leftarrow$  RESOLVE( $\phi, \pi$ )
6 if resolvers is empty
7   return failure    ▷ a flaw with no resolvers
8 choose  $\rho \in$  resolvers  ▷ choose a resolver
9  $\pi' \leftarrow$  REFINES( $\rho, \pi$ )
10 return PSP( $\pi'$ )

```

Steps for generating plan @ 11
 info for movegen: available
 NO search strategy
 Node - State of the world
 movegen @ 6
 non-det selection @ 9
 In full impltn:
 -- non-det selection handled by:
 ----choose 1/1 while backtracking
 -----on failure

Steps for generating plan @ 12
 info for movegen: available
 NO search strategy
 Node - Goal/subgoal
 movegen @ 7
 non-det selection @ 10
 In full impltn:
 -- non-det selection handled by:
 ----choose 1/1 while backtracking
 -----on failure

Steps for generating plan @ 8
 info for movegen: available
 Yes search strategy: Stack
 Node - Goal/subgoal
 movegen @ 13
 non-det selection @ 13
 In full impltn:
 -- non-det selection handled by:
 ----choose 1/1 while backtracking
 -----on failure

Steps for generating plan @ 9
 info for movegen: available
 No search strategy
 Node - Partial plan
 movegen @ 1,4,5
 non-det selection @ 4,8
 In full impltn:
 -- non-det selection handled by:
 ----choose 1/1 while backtracking
 -----on failure