

FSSP(S_0, G)

```

1  $S \leftarrow S_0$ 
2  $\pi \leftarrow \text{empty plan}$ 
3 loop
4   if  $G \subseteq S$        $\text{pre}(a) \subseteq S$ 
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

```

Has plan generation step @ 11

MoveGen NOT specified

Search Strategy NOT specified

Node -- State of the World

MoveGeneration @ 6

Non-Det selection @ 9

-- handled by in full impltn:
selecting each choice 1/1 while
backtracking on failure

BSSP(S_0, G)

```

1  $G' \leftarrow G$ 
2  $\pi \leftarrow \text{empty plan}$ 
3 loop
4   if  $G' \subseteq S_0$        $\begin{array}{l} + \text{engt } \phi \\ \text{and} \\ - \text{ngt } \phi \end{array}$ 
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   $\pi \leftarrow a \circ \pi$         ▷ update plan

```

Has plan generation step @ 12

MoveGen NOT specified

Search Strategy NOT specified

Node -- Goal/Subgoal

MoveGeneration @ 7

Non-Det selection @ 10

-- handled by in full impltn:
selecting each choice 1/1 while
backtracking on failure

GSP(givenState, givenGoal, actions)

```

1  $\pi \leftarrow \text{empty plan}$           PUSHSET( $G$ , stack)
2 stack  $\leftarrow$  empty stack       1 push  $G$  to stack
3  $S \leftarrow \text{givenState}$          2 for each goal  $g$  in  $G$ 
4 PUSHSET(givenGoal, stack)      3 push  $g$  to stack
5 while stack is not empty
6    $X \leftarrow \text{pop stack}$         PROGRESS( $S, a$ )
7   if  $X$  is an action  $a$            1 return  $(S \cup \text{add-effects}(a)) \setminus \text{del-effects}(a)$ 
8      $\pi \leftarrow \pi \circ a$ 
9      $S \leftarrow \text{PROGRESS}(S, a)$ 
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     $a \leftarrow \text{choose a relevant action that achieves } g$ 
14    if  $a$  is null then return failure
15    push  $a$  to stack
16    PUSHSET( $\text{pre}(a)$ , stack)
17 return  $\pi$ 

```

Has plan generation step @ 8

MoveGen NOT specified

Search Strategy IS(?) specified

Node -- (?)

MoveGeneration @ 13

Non-Det selection @ 13

-- handled by in full impltn:
selecting each choice 1/1 while
backtracking on failure

PSP(π)

```

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

```

Has plan generation step @ yes but where
MoveGen NOT specified

Search Strategy NOT specified

Node -- Partial Plan

MoveGeneration @ 1,4,5

Non-Det selection @ 4,8

-- handled by in full impltn:
selecting each choice 1/1 while
backtracking on failure