function CPOP(*initial, goals, operators*) **returns** *plan*

plan ← MAKE-PLAN(*initial, goals*)
loop do

Termination:
if there are no unsatisfied preconditions
and the contexts of the finish steps are exhaustive
then return *plan*

Alternative context generation:
if the plans for existing finish steps are complete and have contexts $C_1 \ \ldots \ C_n$ **then**
add a new finish step with a context $\neg\ (C_1 \vee \ \ldots \ \vee \ C_n)$
this becomes the *current context*

Subgoal selection and addition:
find a plan step S_{need} with an open precondition c

Action selection:
choose a step S_{add} from *operators* or STEPS(*plan*) that adds c or
knowledge of c and has a context compatible with the current context
if there is no such step
then fail
add $S_{add} \xrightarrow{c} S_{need}$ to LINKS(*plan*)
add $S_{add} \prec S_{need}$ to ORDERINGS(*plan*)
if S_{add} is a newly added step **then**
add S_{add} to STEPS(*plan*)
add $Start \prec S_{add} \prec Finish$ to ORDERINGS(*plan*)

Threat resolution:
for each step S_{threat} that potentially threatens any causal link $S_i \xrightarrow{c} S_j$
with a compatible context **do**
choose one of
Promotion: Add $S_{threat} \prec S_i$ to ORDERINGS(*plan*)
Demotion: Add $S_j \prec S_{threat}$ to ORDERINGS(*plan*)
Conditioning:
find a conditional step S_{cond} possibly before both S_{threat} and S_j, where
1. the context of S_{cond} is compatible with the contexts of S_{threat} and S_j;
2. the step has outcomes consistent with S_{threat} and S_j, respectively
add conditioning links for the outcomes from S_{cond} to S_{threat} and S_j
augment and propagate the contexts of S_{threat} and S_j

if no choice is consistent
then fail
end
end