

ASSINGMENT: 6(B)

NAME:SOURABH PATEL

ADMISSION NO. -U19CS082

Q).A monkey is in a room. Suspended from the ceiling is a bunch of bananas, beyond the monkey's reach. In the room there is a stick only. The ceiling is just the right height so that a monkey standing on a chair could knock the bananas down with the stick. The monkey knows how to move around, carry other things around, reach for the bananas, and wave a stick in the air. What are the sequence of actions for the monkey?

Source Code:

```
move(state(middle,hold,middle,hasnot),
grasp,
state(middle,hold,middle,has)).
move(state(P1,nothold,P1,H),
holdd(P1,P2),    state(P2,hold,P2,H)).
move(state(P1,nothold,B,H),
walk(P1,P2),    state(P2,nothold,B,H)).
canget(state(_,_,_,has)).
canget(State1) :-
move(State1,_,State2),
canget(State2).
```

Output:

```
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?- consult('mbupgrade.pl').
true.

?- canget(state(atdoor, nothold, atwindow, hasnot)).
true.

?- trace.
true.

[trace] ?- canget(state(atdoor, nothold, atwindow, hasnot)).
Call: (10) canget(state(atdoor, nothold, atwindow, hasnot)) ? creep
Call: (11) move(state(atdoor, nothold, atwindow, hasnot), _16242, _16182) ? creep
Exit: (11) move(state(atdoor, nothold, atwindow, hasnot), walk(atdoor, _16946), state(_16946, nothold, atwindow, hasnot)) ? creep
Call: (11) canget(state(_16946, nothold, atwindow, hasnot)) ? creep
Call: (12) move(state(_16946, nothold, atwindow, hasnot), _18526, _18466) ? creep
Exit: (12) move(state(atwindow, nothold, atwindow, hasnot), holdd(atwindow, _19230), state(_19230, hold, _19230, hasnot)) ? creep
Call: (12) canget(state(_19230, hold, _19230, hasnot)) ? creep
Call: (13) move(state(_19230, hold, _19230, hasnot), _20810, _20750) ? creep
Exit: (13) move(state(middle, hold, middle, hasnot), grasp, state(middle, hold, middle, has)) ? creep
Call: (13) canget(state(middle, hold, middle, has)) ? creep
Exit: (13) canget(state(middle, hold, middle, has)) ? creep
Exit: (12) canget(state(middle, hold, middle, hasnot)) ? creep
Exit: (11) canget(state(atwindow, nothold, atwindow, hasnot)) ? creep
Exit: (10) canget(state(atdoor, nothold, atwindow, hasnot)) ? creep
true.

[trace] ?- 
```

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```
?- consult('mbupgrade.pl').  
true.
```

```
?- canget(state(middle, nothold, middle, hasnot)).  
true .
```

```
?- trace.  
true.
```

```
[trace] ?- canget(state(middle, nothold, middle, hasnot)).  
Call: (10) canget(state(middle, nothold, middle, hasnot)) ? creep  
Call: (11) move(state(middle, nothold, middle, hasnot), _16218, _16158) ? creep  
Exit: (11) move(state(middle, nothold, middle, hasnot), holdd(middle, _16922), state(_16922, hold, _16922, hasnot)) ? creep  
Call: (11) canget(state(_16922, hold, _16922, hasnot)) ? creep  
Call: (12) move(state(_16922, hold, _16922, hasnot), _18502, _18442) ? creep  
Exit: (12) move(state(middle, hold, middle, hasnot), grasp, state(middle, hold, middle, has)) ? creep  
Call: (12) canget(state(middle, hold, middle, has)) ? creep  
Exit: (12) canget(state(middle, hold, middle, has)) ? creep  
Exit: (11) canget(state(middle, hold, middle, hasnot)) ? creep  
Exit: (10) canget(state(middle, nothold, middle, hasnot)) ? creep  
true .
```

```
[trace] ?- 
```