

Roll No: 5117060

Banana Monkey Problem

Code:

```
move(state(middle,onbox,middle,hasnot),
      grasp,
      state(middle,onbox,middle,has)).
move(state(P,onfloor,P,H),
      climb,
      state(P,onbox,P,H)).
move(state(P1,onfloor,P1,H),
      push(P1,P2),
      state(P2,onfloor,P2,H)).
move(state(P1,onfloor,B,H),
      walk(P1,P2),
      state(P2,onfloor,B,H)).
canget(state(_,_,_,has)).
canget(State1) :-
    move(State1,_,State2),
    canget(State2).
```

Output:

```
| ?- change_directory('C:/Users/asus/Desktop/Notes BE 2020-21/AI').

yes

| ?- [prolog]

.

compiling C:/Users/asus/Desktop/Notes BE 2020-21/AI/prolog.pl for
byte code...

C:/Users/asus/Desktop/Notes BE 2020-21/AI/prolog.pl compiled, 15
lines read - 2185 bytes written, 22 ms

(16 ms) yes
```

```
| ?- canget(state(atdoor,onfloor,atwindow,hasnot)).
```

true ?

(16 ms) yes

```
| ?- trace.
```

The debugger will first creep -- showing everything (trace)

yes

```
{trace}
```

```
| ?- canget(state(atdoor,onfloor,atwindow,hasnot)).
```

```
      1      1  Call: canget(state(atdoor,onfloor,atwindow,hasnot)) ?
```

```
      2      2  Call:
move(state(atdoor,onfloor,atwindow,hasnot),_52,_92) ?
```

```
      2      2  Exit:
move(state(atdoor,onfloor,atwindow,hasnot),walk(atdoor,_80),state(_8
0,onfloor,atwindow,hasnot)) ?
```

```
      3      2  Call: canget(state(_80,onfloor,atwindow,hasnot)) ?
```

```
      4      3  Call:
move(state(_80,onfloor,atwindow,hasnot),_110,_150) ?
```

```
      4      3  Exit:
move(state(atwindow,onfloor,atwindow,hasnot),climb,state(atwindow,on
box,atwindow,hasnot)) ?
```

```
      5      3  Call: canget(state(atwindow,onbox,atwindow,hasnot)) ?
```

```
      6      4  Call:
move(state(atwindow,onbox,atwindow,hasnot),_165,_205) ?
```

```
      6      4  Fail:
move(state(atwindow,onbox,atwindow,hasnot),_165,_193) ?
```

```
      5      3  Fail: canget(state(atwindow,onbox,atwindow,hasnot)) ?
```

```
      4      3  Redo:
move(state(atwindow,onfloor,atwindow,hasnot),climb,state(atwindow,on
box,atwindow,hasnot)) ?
```

```
      4      3  Exit:
move(state(atwindow,onfloor,atwindow,hasnot),push(atwindow,_138),sta
te(_138,onfloor,_138,hasnot)) ?
```

```
      5      3  Call: canget(state(_138,onfloor,_138,hasnot)) ?
```

```
      6      4  Call: move(state(_138,onfloor,_138,hasnot),_168,_208)
?
```

```

        6      4  Exit:
move(state(_138,onfloor,_138,hasnot),climb,state(_138,onbox,_138,has
not)) ?
        7      4  Call: canget(state(_138,onbox,_138,hasnot)) ?
        8      5  Call: move(state(_138,onbox,_138,hasnot),_223,_263) ?
        8      5  Exit:
move(state(middle,onbox,middle,hasnot),grasp,state(middle,onbox,midd
le,has)) ?
        9      5  Call: canget(state(middle,onbox,middle,has)) ?
        9      5  Exit: canget(state(middle,onbox,middle,has)) ?
        7      4  Exit: canget(state(middle,onbox,middle,hasnot)) ?
        5      3  Exit: canget(state(middle,onfloor,middle,hasnot)) ?
        3      2  Exit: canget(state(atwindow,onfloor,atwindow,hasnot))
?
        1      1  Exit: canget(state(atdoor,onfloor,atwindow,hasnot)) ?

true ?

```