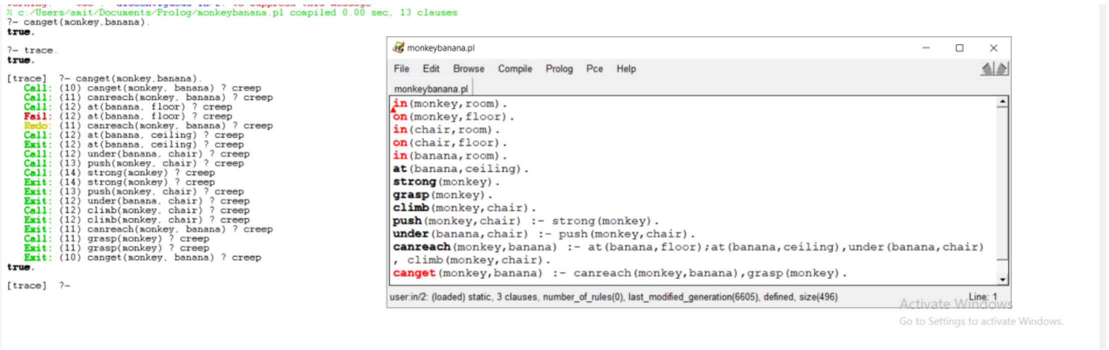
LAB 4

Objective: Write a program to solve the Monkey Banana problem.

Program:

```
in(monkey,room).
on(monkey,floor).
in(chair,room).
on(chair,floor).
in(banana,room).
at(banana,ceiling).
strong(monkey).
grasp(monkey).
climb(monkey,chair).
push(monkey,chair) :- strong(monkey).
under(banana,chair) :- push(monkey,chair).
canreach(monkey,banana)                                        :-
at(banana,floor);at(banana,ceiling),under(banana,chair),
climb(monkey,chair).
canget(monkey,banana) :- canreach(monkey,banana),grasp(monkey).
```



```
% c:/Users/amit/Documents/Prolog/monkeybanana.pl compiled 0.00 sec, 13 clauses
?- canget(monkey,banana).
true.

?- trace.
true.

[trace]  ?- canget(monkey,banana).
   Call: (10) canget(monkey, banana) ? creep
   Call: (11) canreach(monkey, banana) ? creep
   Call: (12) at(banana, floor) ? creep
   Fail: (12) at(banana, floor) ? creep
   Redo: (11) canreach(monkey, banana) ? creep
   Call: (12) at(banana, ceiling) ? creep
   Exit: (12) at(banana, ceiling) ? creep
   Call: (12) under(banana, chair) ? creep
   Call: (13) push(monkey, chair) ? creep
   Call: (14) strong(monkey) ? creep
   Exit: (14) strong(monkey) ? creep
   Exit: (13) push(monkey, chair) ? creep
   Exit: (12) under(banana, chair) ? creep
   Call: (12) climb(monkey, chair) ? creep
   Exit: (12) climb(monkey, chair) ? creep
   Exit: (11) canreach(monkey, banana) ? creep
   Call: (11) grasp(monkey) ? creep
   Exit: (11) grasp(monkey) ? creep
   Exit: (10) canget(monkey, banana) ? creep
true.

[trace]  ?-
```

```
in(monkey,room).
on(monkey,floor).
in(chair,room).
on(chair,floor).
in(banana,room).
at(banana,ceiling).
strong(monkey).
grasp(monkey).
climb(monkey,chair).
push(monkey,chair) :- strong(monkey).
under(banana,chair) :- push(monkey,chair).
canreach(monkey,banana) :- at(banana,floor);at(banana,ceiling),under(banana,chair)
, climb(monkey,chair).
canget(monkey,banana) :- canreach(monkey,banana),grasp(monkey).
```

user:in/2: (loaded) static, 3 clauses, number_of_rules(0), last_modified_generation(6605), defined, size(496)

Line: 1