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DEFINITION NUMBER :3

AIM:

Write a program to demonstrate cut and fail in prolog.

PROGRAM CODE:

```
animal(cobra).

animal(python).

animal(blackMamba).


snake(cobra).

snake(python).

snake(blackMamba).


likes(raj,X):- snake(X),!,fail.

likes(raj,X):- animal(X).
```

OUTPUT:

```
% e:/5_AI_CS341/19DCS098_Prolog/cutFail.pl
, -2 clauses
?- likes(raj,tiger).
true.

?- likes(raj,cobra).
false.
```

```
[trace]  ?- likes(raj,tiger).
   Call: (10) likes(raj, tiger) ? creep
   Call: (11) snake(tiger) ? creep
   Fail: (11) snake(tiger) ? creep
   Redo: (10) likes(raj, tiger) ? creep
   Call: (11) animal(tiger) ? creep
   Exit: (11) animal(tiger) ? creep
   Exit: (10) likes(raj, tiger) ? creep
true.
```

```
[trace]  ?- likes(raj,cobra).
   Call: (10) likes(raj, cobra) ? creep
   Call: (11) snake(cobra) ? creep
   Exit: (11) snake(cobra) ? creep
   Call: (11) fail ? creep
   Fail: (11) fail ? creep
   Fail: (10) likes(raj, cobra) ? creep
false.
```

CONCLUSION:

By performing the above practical, we learned about cut and fail.

CUT:

- Represented by !.
- It always succeeds, but cannot be backtracked. It is best used to prevent unwanted backtracking,

fail is a special symbol that will immediately fail when Prolog encounters it as a goal