Assignment Froject Exam Help Some https://powcodericomeatures Add War Welder Come Add War Well Co

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Lists all user definitions listing.

currently loaded.

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o). Lists the definition of a given listing(p). https://powcoder.com

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In Linux to be able to use listing you must use consult(c compile(compi

Input / Output

- write(T) writes a term T
- read(X) unifies with X the next term read (the term must be followed by "." and carriage return if written from keyboad)
- nl AdwitteShat new note character
- tab(N) produces N tab spaces

tab may not work in some Prologs. But we can program it easily.

tab(0).

tab(N):- N>0. write(','), M is N-1, tab(M).

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Example

A Prolog program that writes the content of a list, one element per line:

```
Assignment Project Exam Help writelist([]).

writelist([X|L]):- whiteps)//plowatedist(Lom

| ?- writelist(['Ready', Steady', Go']).

Ready

Steady

Go

yes
```

Another Example

/*

- A program for practising the squares of number:

 It asks the user they want to play.
- If they do then those rates and integen at random, and
- asks them to input the square of the integer.
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 If they get it right it says correct, otherwise it says wrong and outputs the correct square.

```
% Load the random number generator library.
% This is called a directive.
:- use module (sistiganment Broject Exam Help
check_squares:- https://powcoder.com nl, write('Do you want to play ?'),
       nl, read(X), Add WeChat powcoder
        (X=no -> (write(goodbye), nl, nl);
               random(1,20,Y),
               % Randomly generates an integer between 1 and 20.
               nl, askabout(Y)).
```

random(+L, +U, -R)

unifies R with a random integer in (L, U) when L and U are integers (note that U will never be generated).

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```
askabout(X):-
       writeMessage(['what is the square of', X, '?']),
       read(Assignment Project Exam Help
       Z is X*X, https://powcoder.com
       (Y is Z -> write(correct), nl;
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write(wrong),tab(4),
       writeMessage(['the square of', X, is, Z])),
       check_squares.
```

Example cntd.

```
askabout(X):-
      writeMessage(['what is the square of', X, '?']), ssignment Project Exam Help
      read(Y),https://powcoder.com
      (Y is X*XAda weite (correct) ernl;
      write(wrong),nl),
      check_squares.
```

Example cntd.

```
writeMessage([]).

writeMessage([X]ghiment Project Exam Help write(X), write(''), https://powcoder.com writeMessage([-])WeChat powcoder nl.
```

Comparison operators in Prolog

| x = Y succeeds if X and Y unify (match) in the Prolog sense x \= Y succeeds if X and Y do not unify; i.e. if not (X = No Y) x \= Y succeeds if X and Y do not unify; i.e. if not (X = No Y) x \= T2 | Comparison | Definition <u>Evaluates</u> ? | |
|---|------------|---|-----|
| T1 == T2 Assignizhted triallies that etche land and Help No T1 \== T2 succeeds if terms T1 and T2 are identical; e.g., Help No E1 == E2 httpus.//powcoder.com E1 =\= E2 httpus.//powcoder.com Succeeds if values of expressions E1 and E2 are not equal Auctee Wifnered value of expression E1 is ≤ numeric value of E2 E1 =< E2 E1 =< E2 Aucteeds if numeric value of expression E1 is ≤ numeric value of E2 succeeds if numeric value of expression E1 is > numeric value of E2 E1 >= E2 F1 >= E2 Succeeds if numeric value of expression E1 is ≥ numeric value of E2 succeeds if numeric value of expression E1 is ≥ numeric value of E2 succeeds if numeric value of expression E1 is ≥ numeric value of E2 succeeds if numeric value of expression E1 is ≥ numeric value of E2 succeeds if T1 is alphabetically < T2 No T1 @=< T2 succeeds if T1 is alphabetically > T2 No | X = Y | | No |
| T1 \== T2 succeeds if terms T1 and T2 are not identical No E1 =:= E2 httppa. / POWCOUET.COTT succeeds if values of expressions E1 and E2 are not equal A quelegatifum end value of expression E1 is ≤ numeric value of E2 E1 < E2 E1 =< E2 succeeds if numeric value of expression E1 is ≤ numeric value of E2 E1 >= E2 succeeds if numeric value of expression E1 is > yes numeric value of E2 E1 >= E2 succeeds if numeric value of expression E1 is > yes numeric value of E2 T1 @< T2 succeeds if T1 is alphabetically < T2 No T1 @> T2 succeeds if T1 is alphabetically > T2 No | X \= Y | · · · · · · · · · · · · · · · · · · · | No |
| E1 =:= E2 httpus./powcouer.com succeeds if values of expressions E1 and E2 are yes succeeds if values of expressions E1 and E2 are not equal yes E1 < E2 | T1 == T2 | Assign succeeds if terms T1 and T2 are identical; e.o. Help | No |
| E1 = E2 E1 = E2 Succeeds if values of expressions E1 and E2 are not equal A cucle existing numeric value of expression E1 is ≤ numeric value of E2 E1 = E2 E1 = E2 Succeeds if numeric value of expression E1 is ≤ numeric value of E2 E1 > E2 E1 > E2 E1 > E2 Succeeds if numeric value of expression E1 is > numeric value of E2 Succeeds if numeric value of expression E1 is > yes E1 > E2 E1 > E2 Succeeds if numeric value of expression E1 is > yes numeric value of E2 F1 @ < T2 Succeeds if T1 is alphabetically < T2 No T1 @ < T2 Succeeds if T1 is alphabetically ≤ T2 No T1 @ > T2 No | T1 \== T2 | succeeds if terms T1 and T2 are not identical | No |
| E1 =\= E2 Succeeds if values of expressions E1 and E2 are not equal E1 < E2 A cuc leek if numeric value of prossion E1 is \leq Yes E1 =< E2 E1 =< E2 Succeeds if numeric value of expression E1 is \leq numeric value of E2 E1 > E2 E1 > E2 E1 > E2 Succeeds if numeric value of expression E1 is $>$ Yes numeric value of E2 E1 >= E2 Succeeds if numeric value of expression E1 is $>$ Yes numeric value of E2 E1 >= E2 T1 @< T2 Succeeds if T1 is alphabetically < T2 No T1 @> T2 Succeeds if T1 is alphabetically > T2 No | E1 =:= E2 | httepla://powcoder.com | Yes |
| E1 =< E2 succeeds if numeric value of expression E1 is \leq numeric value of E2 Yes E1 > E2 succeeds if numeric value of expression E1 is $>$ numeric value of E2 E1 >= E2 succeeds if numeric value of expression E1 is $>$ numeric value of E2 E1 >= E2 succeeds if numeric value of expression E1 is $>$ numeric value of E2 T1 @< T2 succeeds if T1 is alphabetically $<$ T2 No T1 @=< T2 succeeds if T1 is alphabetically \leq T2 No T1 @> T2 succeeds if T1 is alphabetically $>$ T2 No | E1 =\= E2 | succeeds if values of expressions E1 and E2 are | Yes |
| E1 = $\langle E2 \rangle$ numeric value of E2 E1 > E2 succeeds if numeric value of expression E1 is > yes E1 >= E2 succeeds if numeric value of expression E1 is > yes E1 >= E2 yes T1 @ < T2 succeeds if T1 is alphabetically < T2 No T1 @ = < T2 succeeds if T1 is alphabetically \leq T2 No T1 @ > T2 succeeds if T1 is alphabetically > T2 No | E1 < E2 | A ducteens if numeric value of expression 51 is der | Yes |
| E1 > E2 | E1 =< E2 | | Yes |
| ET >= EZ $T1 @< T2$ $T1 @=< T2$ $T1 @> T2$ $Succeeds if T1 is alphabetically < T2$ $Succeeds if T1 is alphabetically ≤ T2$ $Succeeds if T1 is alphabetically > T2$ No | E1 > E2 | · | Yes |
| T1 @=< T2 succeeds if T1 is alphabetically \leq T2 No T1 @> T2 succeeds if T1 is alphabetically > T2 No | E1 >= E2 | · | Yes |
| T1 @> T2 succeeds if T1 is alphabetically > T2 No | T1 @< T2 | succeeds if T1 is alphabetically < T2 | No |
| | T1 @=< T2 | succeeds if T1 is alphabetically ≤ T2 | No |
| T1 @>= T2 succeeds if T1 is alphabetically ≥ T2 No | T1 @> T2 | succeeds if T1 is alphabetically > T2 | No |
| | T1 @>= T2 | succeeds if T1 is alphabetically ≥ T2 | No |

Inserting clauses at the terminal

```
| ?- [user].
% consulting user ...
| p(X):-q(X). Assignment Project Exam Help
p(X):-r(X).
                 https://powcoder.com
| q(1).
r(2).
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| end_of_file.
% consulted user in module user, 0 msec 560 bytes
yes
| ?-
```

How do you save the terminal entered program to a file?

- If you wish to save the program you have entered at the terminal as a text file, you can use the following steps:
- After the "[user]. party of have to declare all your predicates Charpamioder
- Then enter the program, ending with end_of_file or <Ctrl>z.
- Then use tell, listing, told.

Example

```
| ?- [user].
| dynamic(plus one/2), Assignment Project Exam Help
| plus_one(X, Y):- Y is X + 1.
https://powcoder.com
| end_of_file. (or '<Ctrl>-Z').
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| ?- tell(yourFilename).
?- listing.
?- told.
yes
```

In windows use the file -> Working directory menu to choose directory where the file will go. Assignment Project Exam Help

In Linux give the full me name.

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Reading and writing from files

(not part of this course)

Not needed in this course.

But Prolog has a variety of predicates for these tasks, such as:

- see(F)
- seen
- tell(F)
- told

https://powcoder.com opens file F as the input file

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opens file F as the output file

closes F as output file