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kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
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kalmera@userv:~$
kalmera@userv:~$ cd vm13/
kalmera@userv:~/vm13$ vi test.pl
kalmera@userv:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
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For help, use ?- help(Topic). or ?- apropos(Word).

?-
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For help, use ?- help(Topic). or ?- apropos(Word).

?- female
| 8
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For help, use ?- help(Topic). or ?- apropos(Word).

?- female
| (mary).
ERROR: Syntax error: Operator expected
ERROR: female

ERROR: ** here **
ERROR: (mary) .
?- female
(mary).
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
kalmera@userv:~/vm13$ vi test.pl
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For help, use ?- help(Topic). or ?- apropos(Word).

?- female
| (mary).
ERROR: Syntax error: Operator expected
ERROR: female

ERROR: ** here **
ERROR: (mary) .
?- female(mary).
true
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action? .

?-
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
kalmera@userv:~/vm13$ rlrwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
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For help, use ?- help(Topic). or ?- apropos(Word).

?- female
| (mary).
ERROR: Syntax error: Operator expected
ERROR: female

ERROR: ** here **
ERROR: (mary) .
?- female(mary).
true
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action? .

?- female(mary).
true
```

```
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For help, use ?- help(Topic). or ?- apropos(Word).

?- female
| (mary).
ERROR: Syntax error: Operator expected
ERROR: female

ERROR: ** here **
ERROR: (mary) .
?- female(mary).
true
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action? .

?- female(mary).
true ;
false.

?-
```

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?- female
| (mary).
ERROR: Syntax error: Operator expected
ERROR: female

ERROR: ** here **
ERROR: (mary) .
?- female(mary).
true
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action? .

?- female(mary).
true ;
false.

?- female(X).
X = mary
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
?- female
| (mary).
ERROR: Syntax error: Operator expected
ERROR: female

ERROR: ** here **
ERROR: (mary) .
?- female(mary).
true
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action? .

?- female(mary).
true ;
false.

?- female(X).
X = mary ;
X = ann ;
X = linda ;
X = carol.

?-
```



```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
?- female(X).
X = mary ;
X = ann ;
X = linda ;
X = carol.

?- female(bob).
false.

?-
% halt
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kalmera@user:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
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For help, use ?- help(Topic). or ?- apropos(Word).

?- parent(bob, mary).
true
Unknown action: , (h for help)
Action? .

?- █
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
X = mary ;
X = ann ;
X = linda ;
X = carol.

?- female(bob).
false.

?-
% halt
kalmera@user:~/vm13$ vi test.pl
kalmera@user:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
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For help, use ?- help(Topic). or ?- apropos(Word).

?- parent(bob, mary).
true
Unknown action: , (h for help)
Action? .

?- parent(bob, P).
P = mary █
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
?- female(bob).
false.

?-
% halt
kalmera@user:~/vm13$ vi test.pl
kalmera@user:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
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For help, use ?- help(Topic). or ?- apropos(Word).

?- parent(bob, mary).
true
Unknown action: , (h for help)
Action? .

?- parent(bob, P).
P = mary ;
P = john ;
false.

?- █
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
?-
% halt
kalmera@user:~/vm13$ vi test.pl
kalmera@user:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
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For help, use ?- help(Topic). or ?- apropos(Word).

?- parent(bob, mary).
true
Unknown action: , (h for help)
Action? .

?- parent(bob, P).
P = mary ;
P = john ;
false.

?- parent(bob, P), male(P).
P = john ;
false.

?- █
```



```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
female(X) :- X=ann .
female(X) :- X=linda.
female(X) :- X=carol.

male(X) :- X=john .
male(X) :- X=bob .
male(X) :- X=peter.
male(X) :- X=fred .

parent(Child,Parent) :- Child=bob , Parent=mary .
parent(Child,Parent) :- Child=bob , Parent=john .
parent(Child,Parent) :- Child=mary , Parent=linda.
parent(Child,Parent) :- Child=mary , Parent=peter.
parent(Child,Parent) :- Child=fred , Parent=linda.
parent(Child,Parent) :- Child=fred , Parent=peter.
parent(Child,Parent) :- Child=carol , Parent=fred .
parent(Child,Parent) :- Child=carol , Parent=ann .

father(C,F) :- parent(C,F), male(F).
mother(C,M) :- parent(C,M), female(M).

son(P,S) :- parent(S,P), male(S).
daughter(P,D) :- parent(D,P), female(D).

-- INSERT --
37,1 9%
```

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kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
female(X) :- X=ann .
female(X) :- X=linda.
female(X) :- X=carol.

male(X) :- X=john .
male(X) :- X=bob .
male(X) :- X=peter.
male(X) :- X=fred .

parent(Child,Parent) :- Child=bob , Parent=mary .
parent(Child,Parent) :- Child=bob , Parent=john .
parent(Child,Parent) :- Child=mary , Parent=linda.
parent(Child,Parent) :- Child=mary , Parent=peter.
parent(Child,Parent) :- Child=fred , Parent=linda.
parent(Child,Parent) :- Child=fred , Parent=peter.
parent(Child,Parent) :- Child=carol , Parent=fred .
parent(Child,Parent) :- Child=carol , Parent=ann .

father(C,F) :- parent(C,F), male(F).
mother(C,M) :- parent(C,M), female(M).

son(P,S) :- parent(S,P), male(S).
daughter(P,D) :- parent(D,P), female(D).
-- INSERT --
34,1 9%
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
female(X) :- X=ann .
female(X) :- X=linda.
female(X) :- X=carol.

male(X) :- X=john .
male(X) :- X=bob .
male(X) :- X=peter.
male(X) :- X=fred .

parent(Child,Parent) :- Child=bob , Parent=mary .
parent(Child,Parent) :- Child=bob , Parent=john .
parent(Child,Parent) :- Child=mary , Parent=linda.
parent(Child,Parent) :- Child=mary , Parent=peter.
parent(Child,Parent) :- Child=fred , Parent=linda.
parent(Child,Parent) :- Child=fred , Parent=peter.
parent(Child,Parent) :- Child=carol , Parent=fred .
parent(Child,Parent) :- Child=carol , Parent=ann .

father(C,F) :- parent(C,F), male(F).
mother(C,M) :- parent(C,M), female(M).

son(P,S) :- parent(S,P), male(S).
daughter(P,D) :- parent(D,P), female(D).

grandparent(C,G) :- parent(C,P), parent(P,G).
-- INSERT --
32,1 9%
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
female(X) :- X=carol.

male(X) :- X=john .
male(X) :- X=bob .
male(X) :- X=peter.
male(X) :- X=fred .

parent(Child,Parent) :- Child=bob , Parent=mary .
parent(Child,Parent) :- Child=bob , Parent=john .
parent(Child,Parent) :- Child=mary , Parent=linda.
parent(Child,Parent) :- Child=mary , Parent=peter.
parent(Child,Parent) :- Child=fred , Parent=linda.
parent(Child,Parent) :- Child=fred , Parent=peter.
parent(Child,Parent) :- Child=carol , Parent=fred .
parent(Child,Parent) :- Child=carol , Parent=ann .

father(C,F) :- parent(C,F), male(F).
mother(C,M) :- parent(C,M), female(M).

son(P,S) :- parent(S,P), male(S).
daughter(P,D) :- parent(D,P), female(D).

grandparent(C,G) :- parent(C,P), parent(P,G).
-- INSERT --
39,1 11%
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
false.

?- parent(C,P).
C = bob,
P = mary ;
C = bob,
P = john ;
C = mary,
P = linda ;
C = mary,
P = peter ;
C = fred,
P = linda .

?-
% halt
kalmera@userv:~/vm13$ vi test.pl
kalmera@userv:~/vm13$ rlwrap swipl -s test.pl
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For help, use ?- help(Topic). or ?- apropos(Word).

?-
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
P = mary ;
C = bob,
P = john ;
C = mary,
P = linda ;
C = mary,
P = peter ;
C = fred,
P = linda .

?-
% halt
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For help, use ?- help(Topic). or ?- apropos(Word).

?- father(carol,F).
F = fred ;
false.

?-
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
P = linda ;
C = mary,
P = peter ;
C = fred,
P = linda .

?-
% halt
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For help, use ?- help(Topic). or ?- apropos(Word).

?- father(carol,F).
F = fred ;
false.

?- mother(carol,F).
F = ann ;
false.

?-
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
C = fred,
P = linda .

?-
% halt
kalmera@userv:~/vm13$ vi test.pl
kalmera@userv:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
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For help, use ?- help(Topic). or ?- apropos(Word).

?- father(carol,F).
F = fred ;
false.

?- mother(carol,F).
F = ann ;
false.

?- son(fred,S).
false.

?-
```



```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
?-
% halt
kalmera@user:~/vm13$ vi test.pl
kalmera@user:~/vm13$ r1wrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
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Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?- father(carol,F).
F = fred ;
false.

?- mother(carol,F).
F = ann ;
false.

?- son(fred,S).
false.

?- ancestor(carol,X).
X = fred ;
X = ann ;
X = linda
```

```
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For help, use ?- help(Topic). or ?- apropos(Word).

?- father(carol,F).
F = fred ;
false.

?- mother(carol,F).
F = ann ;
false.

?- son(fred,S).
false.

?- ancestor(carol,X).
X = fred ;
X = ann ;
X = linda ;
X = peter ;
false.

?-
```

```
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For help, use ?- help(Topic). or ?- apropos(Word).

?- father(carol,F).
F = fred ;
false.

?- mother(carol,F).
F = ann ;
false.

?- son(fred,S).
false.

?- ancestor(carol,X).
X = fred ;
X = ann ;
X = linda ;
X = peter ;
false.

?-
% halt
kalmera@user:~/vm13$
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
parent(Child,Parent) :- Child=bob , Parent=mary .
parent(Child,Parent) :- Child=bob , Parent=john .
parent(Child,Parent) :- Child=mary , Parent=linda .
parent(Child,Parent) :- Child=mary , Parent=peter .
parent(Child,Parent) :- Child=fred , Parent=linda .
parent(Child,Parent) :- Child=fred , Parent=peter .
parent(Child,Parent) :- Child=carol , Parent=fred .
parent(Child,Parent) :- Child=carol , Parent=ann .

father(C,F) :- maleParent(C,F).
mother(C,M) :- parent(C,M), female(M).

son(P,S) :- parent(S,P), male(S).
daughter(P,D) :- parent(D,P), female(D).

grandparent(C,G) :- parent(C,P), parent(P,G).

ancestor(X,A) :- parent(X,A).
ancestor(X,A) :- parent(X,B), ancestor(B,A).

sister(X,S) :- parent(X,P), daughter(P,S), X \= S.

-- INSERT --
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
?- mother(carol,F).
F = ann ;
false.

?- son(fred,S).
false.

?- ancestor(carol,X).
X = fred ;
X = ann ;
X = linda ;
X = peter ;
false.

?-
% halt
kalmera@user:~/vm13$ vi test.pl
kalmera@user:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.01 sec, 16,720 bytes
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For help, use ?- help(Topic). or ?- apropos(Word).

?-
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
?- son(fred,S).
false.

?- ancestor(carol,X).
X = fred ;
X = ann ;
X = linda ;
X = peter ;
false.

?-
% halt
kalmera@user:~/vm13$ vi test.pl
kalmera@user:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.01 sec, 16,720 bytes
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Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?- sister(fred,S).
false.

?-
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
false.

?- ancestor(carol,X).
X = fred ;
X = ann ;
X = linda ;
X = peter ;
false.

?-
% halt
kalmera@user:~/vm13$ vi test.pl
kalmera@user:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.01 sec, 16,720 bytes
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and you are welcome to redistribute it under certain conditions.
Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?- sister(fred,S).
false.

?-
% halt
kalmera@user:~/vm13$
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
kalmera@user:~/vm13$ vi test.pl
kalmera@user:~/vm13$ rlwrap swipl -s test.pl
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For help, use ?- help(Topic). or ?- apropos(Word).

?- sister(fred,S).
false.

?-
% halt
kalmera@user:~/vm13$ vi test.pl
kalmera@user:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
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and you are welcome to redistribute it under certain conditions.
Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?-
```



```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe

For help, use ?- help(Topic). or ?- apropos(Word).

?- sister(fred,S).
S = mary ;
S = mary ;
false.

?-
% halt
kalmera@userv:~/vm13$ vi test.pl
kalmera@userv:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
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and you are welcome to redistribute it under certain conditions.
Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?- member(1,[3,2,1]).
true .

?- member(0,[3,2,1]).
false.

?- █
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe

S = mary ;
false.

?-
% halt
kalmera@userv:~/vm13$ vi test.pl
kalmera@userv:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
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For help, use ?- help(Topic). or ?- apropos(Word).

?- member(1,[3,2,1]).
true .

?- member(0,[3,2,1]).
false.

?- member(1,[1,2,1]).
true ;
true ;
false.

?- █
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe

false.

?-
% halt
kalmera@userv:~/vm13$ vi test.pl
kalmera@userv:~/vm13$ rlwrap swipl -s test.pl
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and you are welcome to redistribute it under certain conditions.
Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?- member(1,[3,2,1]).
true .

?- member(0,[3,2,1]).
false.

?- member(1,[1,2,1]).
true ;
true ;
false.

?- member([3,Y], [[1,a],[2,m],[3,z],[4,v],[3,p]]).
Y = z █
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe

For help, use ?- help(Topic). or ?- apropos(Word).

?- member(1,[3,2,1]).
true .

?- member(0,[3,2,1]).
false.

?- member(1,[1,2,1]).
true ;
true ;
false.

?- member([3,Y], [[1,a],[2,m],[3,z],[4,v],[3,p]]).
Y = z █
Unknown action: █ (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action?
Unknown action: █ (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: B (h for help)
Action? █
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
?- member(1,[3,2,1]).
true .

?- member(0,[3,2,1]).
false.

?- member(1,[1,2,1]).
true ;
true ;
false.

?- member([3,Y], [[1,a],[2,m],[3,z],[4,v],[3,p]]).
Y = z
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action?
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: B (h for help)
Action? .

?- member([3,Y], [[1,a],[2,m],[3,z],[4,v],[3,p]]).
Y = z
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
true .

?- member(0,[3,2,1]).
false.

?- member(1,[1,2,1]).
true ;
true ;
false.

?- member([3,Y], [[1,a],[2,m],[3,z],[4,v],[3,p]]).
Y = z
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action?
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: B (h for help)
Action? .

?- member([3,Y], [[1,a],[2,m],[3,z],[4,v],[3,p]]).
Y = z ;
Y = p
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
false.

?- member(1,[1,2,1]).
true ;
true ;
false.

?- member([3,Y], [[1,a],[2,m],[3,z],[4,v],[3,p]]).
Y = z
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action?
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: B (h for help)
Action? .

?- member([3,Y], [[1,a],[2,m],[3,z],[4,v],[3,p]]).
Y = z ;
Y = p ;
false.

?-
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
?- member([3,Y], [[1,a],[2,m],[3,z],[4,v],[3,p]]).
Y = z
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action?
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: B (h for help)
Action? .

?- member([3,Y], [[1,a],[2,m],[3,z],[4,v],[3,p]]).
Y = z ;
Y = p ;
false.

?- member
% /home/kalmera/vm13/test.pl
ERROR: Undefined procedure: member/0
ERROR: However, there are definitions for:
ERROR: member/2
false.

?-
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
Y = z
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action?
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: B (h for help)
Action? .

?- member([3,Y], [[1,a],[2,m],[3,z],[4,v],[3,p]]).
Y = z ;
Y = p ;
false.

?- member
% /home/kalmera/vm13/test.pl
ERROR: Undefined procedure: member/0
ERROR: However, there are definitions for:
ERROR: member/2
false.

?- member(1,X).
X = [1|_G298]
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action?
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: B (h for help)
Action? .

?- member([3,Y], [[1,a],[2,m],[3,z],[4,v],[3,p]]).
Y = z ;
Y = p ;
false.

?- member
% /home/kalmera/vm13/test.pl
ERROR: Undefined procedure: member/0
ERROR: However, there are definitions for:
ERROR: member/2
false.

?- member(1,X).
X = [1|_G298] ;
X = [_G297, 1|_G301]
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
Action?
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: B (h for help)
Action? .

?- member([3,Y], [[1,a],[2,m],[3,z],[4,v],[3,p]]).
Y = z ;
Y = p ;
false.

?- member
% /home/kalmera/vm13/test.pl
ERROR: Undefined procedure: member/0
ERROR: However, there are definitions for:
ERROR: member/2
false.

?- member(1,X).
X = [1|_G298] ;
X = [_G297, 1|_G301] ;
X = [_G297, _G300, 1|_G304] ;
X = [_G297, _G300, _G303, 1|_G307] ;
X = [_G297, _G300, _G303, _G306, 1|_G310] ;
X = [_G297, _G300, _G303, _G306, _G309, 1|_G313] ;
X = [_G297, _G300, _G303, _G306, _G309, _G312, 1|_G316]
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
Action?
Unknown action: [ (h for help)
Action?
Unknown action: B (h for help)
Action? .

?- member([3,Y], [[1,a],[2,m],[3,z],[4,v],[3,p]]).
Y = z ;
Y = p ;
false.

?- member
% /home/kalmera/vm13/test.pl
ERROR: Undefined procedure: member/0
ERROR: However, there are definitions for:
ERROR: member/2
false.

?- member(1,X).
X = [1|_G298] ;
X = [_G297, 1|_G301] ;
X = [_G297, _G300, 1|_G304] ;
X = [_G297, _G300, _G303, 1|_G307] ;
X = [_G297, _G300, _G303, _G306, 1|_G310] ;
X = [_G297, _G300, _G303, _G306, _G309, 1|_G313] ;
X = [_G297, _G300, _G303, _G306, _G309, _G312, 1|_G316] .

?-
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
ERROR: Undefined procedure: member/0
ERROR:         However, there are definitions for:
ERROR:         member/2
false.

?- member(1,X).
X = [1|_G298] ;
X = [_G297, 1|_G301] ;
X = [_G297, _G300, 1|_G304] ;
X = [_G297, _G300, _G303, 1|_G307] ;
X = [_G297, _G300, _G303, _G306, 1|_G310] ;
X = [_G297, _G300, _G303, _G306, _G309, 1|_G313] ;
X = [_G297, _G300, _G303, _G306, _G309, _G312, 1|_G316] .

ERROR:
% halt
kalmera@userv:~/vm13$ vi test.pl
kalmera@userv:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
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and you are welcome to redistribute it under certain conditions.
Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?-
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
?- member(1,X).
X = [1|_G298] ;
X = [_G297, 1|_G301] ;
X = [_G297, _G300, 1|_G304] ;
X = [_G297, _G300, _G303, 1|_G307] ;
X = [_G297, _G300, _G303, _G306, 1|_G310] ;
X = [_G297, _G300, _G303, _G306, _G309, 1|_G313] ;
X = [_G297, _G300, _G303, _G306, _G309, _G312, 1|_G316] .

ERROR:
% halt
kalmera@userv:~/vm13$ vi test.pl
kalmera@userv:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
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Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?- append([1,2],[a,b],X).
X = [1, 2, a, b] ;
false.

?-
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
X = [_G297, _G300, _G303, _G306, _G309, 1|_G313] ;
X = [_G297, _G300, _G303, _G306, _G309, _G312, 1|_G316] .

ERROR:
% halt
kalmera@userv:~/vm13$ vi test.pl
kalmera@userv:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
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and you are welcome to redistribute it under certain conditions.
Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?- append([1,2],[a,b],X).
X = [1, 2, a, b] ;
false.

?- append(P,_,[1,2,3]).
P = [] ;
P = [1] ;
P = [1, 2] ;
P = [1, 2, 3] ;
false.

?-
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
Welcome to SWI-Prolog (Multi-threaded, 64 bits, Version 5.10.4)
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Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?- append([1,2],[a,b],X).
X = [1, 2, a, b] ;
false.

?- append(P,_,[1,2,3]).
P = [] ;
P = [1] ;
P = [1, 2] ;
P = [1, 2, 3] ;
false.

?- append(_,T,[1,2,3]).
T = [1, 2, 3] ;
T = [2, 3] ;
T = [3] ;
T = [] ;
false.

?-
```



```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?- append([1,2],[a,b],X).
X = [1, 2, a, b] ;
false.

?- append(P,_,[1,2,3]).
P = [] ;
P = [1] ;
P = [1, 2] ;
P = [1, 2, 3] ;
false.

?- append(_,T,[1,2,3]).
T = [1, 2, 3] ;
T = [2, 3] ;
T = [3] ;
T = [] ;
false.

?- append([1,X],P,[1,2,3]).
X = 2,
P = [3] ;
false.

?- █
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
For help, use ?- help(Topic). or ?- apropos(Word).

?- append([1,2],[a,b],X).
X = [1, 2, a, b] ;
false.

?- append(P,_,[1,2,3]).
P = [] ;
P = [1] ;
P = [1, 2] ;
P = [1, 2, 3] ;
false.

?- append(_,T,[1,2,3]).
T = [1, 2, 3] ;
T = [2, 3] ;
T = [3] ;
T = [] ;
false.

?- append([1,X],P,[1,2,3]).
X = 2,
P = [3] ;
false.

?-
% halt
kalmera@user:~/vm13$ █
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
false.

?- append(_,T,[1,2,3]).
T = [1, 2, 3] ;
T = [2, 3] ;
T = [3] ;
T = [] ;
false.

?- append([1,X],P,[1,2,3]).
X = 2,
P = [3] ;
false.

?-
% halt
kalmera@user:~/vm13$ vi test.pl
kalmera@user:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
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Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?-
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
P = [3] ;
false.

?-
% halt
kalmera@user:~/vm13$ vi test.pl
kalmera@user:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
Welcome to SWI-Prolog (Multi-threaded, 64 bits, Version 5.10.4)
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Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?- select([1,2,3,4],E,R).
E = 1,
R = [2, 3, 4] ;
E = 2,
R = [1, 3, 4] ;
E = 3,
R = [1, 2, 4] ;
E = 4,
R = [1, 2, 3] ;
false.

?- █
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
false.

?-
% halt
kalmera@user:~/vm13$ vi test.pl
kalmera@user:~/vm13$ r1wrap swipl -s test.pl
% /home/kalmera/vm13/test.pl compiled 0.00 sec, 16,720 bytes
Welcome to SWI-Prolog (Multi-threaded, 64 bits, Version 5.10.4)
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Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?- select([1,2,3,4],E,R).
E = 1,
R = [2, 3, 4] ;
E = 2,
R = [1, 3, 4] ;
E = 3,
R = [1, 2, 4] ;
E = 4,
R = [1, 2, 3] ;
false.

?- perm([1,2,3],P).
P = [1, 2, 3] █
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
SWI-Prolog comes with ABSOLUTELY NO WARRANTY. This is free software,
and you are welcome to redistribute it under certain conditions.
Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?- select([1,2,3,4],E,R).
E = 1,
R = [2, 3, 4] ;
E = 2,
R = [1, 3, 4] ;
E = 3,
R = [1, 2, 4] ;
E = 4,
R = [1, 2, 3] ;
false.

?- perm([1,2,3],P).
P = [1, 2, 3] ;
P = [2, 1, 3] ;
P = [2, 3, 1] ;
P = [1, 3, 2] ;
P = [3, 1, 2] ;
P = [3, 2, 1] ;
false.

?- perm(P,[1,2,3]).
P = [1, 2, 3] █
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
R = [1, 3, 4] ;
E = 3,
R = [1, 2, 4] ;
E = 4,
R = [1, 2, 3] ;
false.

?- perm([1,2,3],P).
P = [1, 2, 3] ;
P = [2, 1, 3] ;
P = [2, 3, 1] ;
P = [1, 3, 2] ;
P = [3, 1, 2] ;
P = [3, 2, 1] ;
false.

?- perm(P,[1,2,3]).
P = [1, 2, 3] ;
P = [2, 1, 3] ;
P = [3, 1, 2] ;
P = [1, 3, 2] ;
P = [2, 3, 1] ;
P = [3, 2, 1] ;

Action (h for help) ? Unknown option (h for help)
Action (h for help) ? abort
% Execution Aborted
?- █
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
R = [1, 2, 4] ;
E = 4,
R = [1, 2, 3] ;
false.

?- perm([1,2,3],P).
P = [1, 2, 3] ;
P = [2, 1, 3] ;
P = [2, 3, 1] ;
P = [1, 3, 2] ;
P = [3, 1, 2] ;
P = [3, 2, 1] ;
false.

?- perm(P,[1,2,3]).
P = [1, 2, 3] ;
P = [2, 1, 3] ;
P = [3, 1, 2] ;
P = [1, 3, 2] ;
P = [2, 3, 1] ;
P = [3, 2, 1] ;

Action (h for help) ? Unknown option (h for help)
Action (h for help) ? abort
% Execution Aborted
?-
% halt
kalmera@user:~/vm13$ █
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
member(X,Y) :- Y = [X|_].
member(X,Y) :- Y = [_|Z], member(X,Z).

% member(X,[1,2,3]).
% member([3,Y], [[1,a],[2,m],[3,z],[4,v],[3,p]]).
% member(1,X).

male2(X) :- member(X,[john,bob,peter,fred]).

append(X,Y,Z) :- X=[], Y=Z.
append(X,Y,Z) :- X=[A|B], Z=[A|D], append(B,Y,D).

prefix(Lst,Pre) :- append(Pre,_,Lst).
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
select(Xs,E,Rst) :- Xs=[E|Rst].
select(Xs,E,Rst) :- Xs=[A|Zs], Rst=[A|Ys], select(Zs,E,Ys).

perm(Xs,Ys) :- Xs=[], Ys=[].
perm(Xs,Ys) :- Xs=[Q|W], perm(W,R), select(Ys,Q,R).

sudoku(X) :- perm(X,[1,2,3,4]).

all_sudoku(Xs) :- Xs=[].
```

84,1 55%

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
prefix(Lst,Pre) :- append(Pre,_,Lst).
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
select(Xs,E,Rst) :- Xs=[E|Rst].
select(Xs,E,Rst) :- Xs=[A|Zs], Rst=[A|Ys], select(Zs,E,Ys).

perm(Xs,Ys) :- Xs=[], Ys=[].
perm(Xs,Ys) :- Xs=[Q|W], perm(W,R), select(Ys,Q,R).

sudoku(X) :- perm(X,[1,2,3,4]).

all_sudoku(Xs) :- Xs=[].
all_sudoku(Xs) :- Xs=[Y|Ys], sudoku(Y), all_sudoku(Ys).

list_to_single_lists(Xs,Yss) :- Xs=[], Yss=[].
list_to_single_lists(Xs,Yss) :- Xs=[Xh|Xt], Yss=[[Xh]|Yst], list_to_single_lists(Xt,Yst).

prep_each(Xs,Ys,Zs) :- Ys=[], Zs=[], Xs=[].
prep_each(Xs,Ys,Zs) :- Xs=[Xh|Xt], Ys=[H|T], Zs=[[Xh|H]|Tz], prep_each(Xt,T,Tz).

transpose(Xs,Ys) :- Xs=[Xh], list_to_single_lists(Xh,Ys).
transpose(Xs,Ys) :- Xs=[Xh|Xt], prep_each(Xh,Zs,Ys), transpose(Xt,Zs).
```

95,1 66%

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
, [X12,X22, X32,X42]

, [X13,X23, X33,X43]
, [X14,X24, X34,X44]],

Ys = [[X11,X21, X12,X22]
, [X31,X41, X32,X42]

, [X13,X23, X14,X24]
, [X33,X43, X34,X44]].

valid_sudoku(Xs) :-
transpose(Xs,Ys),
boxes(Xs,Zs),
all_sudoku(Xs),
all_sudoku(Ys),
all_sudoku(Zs).

print_sudoku(Xs) :- Xs=[], write('\n').
print_sudoku(Xs) :- Xs=[_|Xt], write('\n'), print_sudoku(Xt).
print_sudoku(Xs) :- Xs=[[Yhh|Yht]|Yt], write(Yhh), write(' '), print_sudoku([Yht|Yt]).
```

124,0-1 94%

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
boxes(Xs,Ys) :-
Xs = [[X1,X2, X31,X41]
, [X2,X22, X32,X42]

, [X13,X23, X33,X43]
, [X14,X24, X34,X44]],

Ys = [[X11,X21, X22,X22]
, [X31,X41, X32,X42]

, [X13,X23, X14,X24]
, [X33,X43, X34,X44]].

valid_sudoku(Xs) :-
transpose(Xs,Ys),
boxes(Xs,Zs),
all_sudoku(Xs),
all_sudoku(Ys),
all_sudoku(Zs).

print_sudoku(Xs) :- Xs=[], write('\n').
print_sudoku(Xs) :- Xs=[_|Xt], write('\n'), print_sudoku(Xt).
print_sudoku(Xs) :- Xs=[[Yhh|Yht]|Yt], write(Yhh), write(' '), print_sudoku([Yht|Yt]).
```

96,0-1 91%

```

kalmerna@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
transpose(Xs,Ys) :- Xs=[Xh|Xt], prep_each(Xh,Zs,Ys), transpose(Xt,Zs).

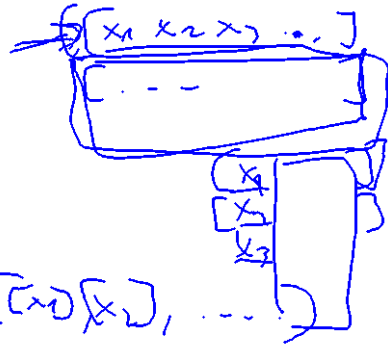
boxes(Xs,Ys) :-
  Xs = [[X11,X21, X31,X41]
        , [X12,X22, X32,X42]
        , [X13,X23, X33,X43]
        , [X14,X24, X34,X44]],
  Ys = [[X11,X21, X12,X22]
        , [X31,X41, X32,X42]
        , [X13,X23, X14,X24]
        , [X33,X43, X34,X44]].

valid_sudoku(Xs) :-
  transpose(Xs,Zs),
  boxes(Xs,Zs),
  all_sudoku(Xs),
  all_sudoku(Ys),
  all_sudoku(Zs).

print_sudoku(Xs) :- Xs=[], write('\n').
print_sudoku(Xs) :- Xs=[_|Xt], write('\n'), print_sudoku(Xt).
print_sudoku(Xs) :- Xs=[[Yhh|Yht]|Yt], write(Yhh), write(' '), print_sudoku([Yht|Yt]).

```

95,1 90%



```

kalmerna@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
P = [3, 2, 1] ;
false.

?- perm(P,[1,2,3]).
P = [1, 2, 3] ;
P = [2, 1, 3] ;
P = [3, 1, 2] ;
P = [1, 3, 2] ;
P = [2, 3, 1] ;
P = [3, 2, 1] ;

Action (h for help) ? Unknown option (h for help)
Action (h for help) ? abort
% Execution Aborted
?-
% halt
kalmerna@userv:~/vm13$ vi test.pl
kalmerna@userv:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmerna/vm13/test.pl compiled 0.00 sec, 16,720 bytes
Welcome to SWI-Prolog (Multi-threaded, 64 bits, Version 5.10.4)
Copyright (c) 1990-2011 University of Amsterdam, VU Amsterdam
SWI-Prolog comes with ABSOLUTELY NO WARRANTY. This is free software,
and you are welcome to redistribute it under certain conditions.
Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?-

```

```

kalmerna@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
false.

?- perm(P,[1,2,3]).
P = [1, 2, 3] ;
P = [2, 1, 3] ;
P = [3, 1, 2] ;
P = [1, 3, 2] ;
P = [2, 3, 1] ;
P = [3, 2, 1] ;

Action (h for help) ? Unknown option (h for help)
Action (h for help) ? abort
% Execution Aborted
?-
% halt
kalmerna@userv:~/vm13$ vi test.pl
kalmerna@userv:~/vm13$ rlwrap swipl -s test.pl
% /home/kalmerna/vm13/test.pl compiled 0.00 sec, 16,720 bytes
Welcome to SWI-Prolog (Multi-threaded, 64 bits, Version 5.10.4)
Copyright (c) 1990-2011 University of Amsterdam, VU Amsterdam
SWI-Prolog comes with ABSOLUTELY NO WARRANTY. This is free software,
and you are welcome to redistribute it under certain conditions.
Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?- sudoku([2,1,3,4]).
true

```

```

kalmerna@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
Copyright (c) 1990-2011 University of Amsterdam, VU Amsterdam
SWI-Prolog comes with ABSOLUTELY NO WARRANTY. This is free software,
and you are welcome to redistribute it under certain conditions.
Please visit http://www.swi-prolog.org for details.

For help, use ?- help(Topic). or ?- apropos(Word).

?- sudoku([2,1,3,4]).
true
Unknown action: , (h for help)
Action? .

?- sudoku([2,1,3,_]).
true ;
false.

?- sudoku([2,1,3,X]).
X = 4 ;
false.

?- sudoku([2,1,Y,X]).
Y = 3,
X = 4 ;
Y = 4,
X = 3 ;
false.

?-

```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe

For help, use ?- help(Topic). or ?- apropos(Word).

?- sudoku([2,1,3,4]).
true
Unknown action: , (h for help)
Action? .

?- sudoku([2,1,3,_]).
true ;
false.

?- sudoku([2,1,3,X]).
X = 4 ;
false.

?- sudoku([2,1,Y,X]).
Y = 3,
X = 4 ;
Y = 4,
X = 3 ;
false.

?- list_to_single_lists([1,2,3],Z).
Z = [[1], [2], [3]] ;
false.

?- █
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe

?- sudoku([2,1,3,4]).
true
Unknown action: , (h for help)
Action? .

?- sudoku([2,1,3,_]).
true ;
false.

?- sudoku([2,1,3,X]).
X = 4 ;
false.

?- sudoku([2,1,Y,X]).
Y = 3,
X = 4 ;
Y = 4,
X = 3 ;
false.

?- list_to_single_lists([1,2,3],Z).
Z = [[1], [2], [3]] ;
false.

?- prep_each([1,2],[[a],[ ]],
| Z).
Z = [[1, a], [2]] █
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe

Unknown action: , (h for help)
Action? .

?- sudoku([2,1,3,_]).
true ;
false.

?- sudoku([2,1,3,X]).
X = 4 ;
false.

?- sudoku([2,1,Y,X]).
Y = 3,
X = 4 ;
Y = 4,
X = 3 ;
false.

?- list_to_single_lists([1,2,3],Z).
Z = [[1], [2], [3]] ;
false.

?- prep_each([1,2],[[a],[ ]],
| Z).
Z = [[1, a], [2]] ;
false.

?- █
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe

?- sudoku([2,1,3,X]).
X = 4 ;
false.

?- sudoku([2,1,Y,X]).
Y = 3,
X = 4 ;
Y = 4,
X = 3 ;
false.

?- list_to_single_lists([1,2,3],Z).
Z = [[1], [2], [3]] ;
false.

?- prep_each([1,2],[[a],[ ]],
| Z).
Z = [[1, a], [2]] ;
false.

?- transpose([[1,2],[a,b]]).
ERROR: Syntax error: Illegal start of term
ERROR: transpose([[1,2],[a,b]],
ERROR: ** here **
ERROR: ) .
?- transpose([[1,2],[a,b]],A).
A = [[1, a], [2, b]] █
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
Y = 4,
X = 3 ;
false.

?- list_to_single_lists([1,2,3],Z).
Z = [[1], [2], [3]] ;
false.

?- prep_each([1,2],[[a],[ ]],
| Z).
Z = [[1, a], [2]] ;
false.

?- transpose([[1,2],[a,b]]).
ERROR: Syntax error: Illegal start of term
ERROR: transpose([[1,2],[a,b]],
ERROR: ** here **
ERROR: ) .
?- transpose([[1,2],[a,b]],A).
A = [[1, a], [2, b]]
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action? .

?- transpose([[1,2],[a,b]],A).█
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
?- list_to_single_lists([1,2,3],Z).
Z = [[1], [2], [3]] ;
false.

?- prep_each([1,2],[[a],[ ]],
| Z).
Z = [[1, a], [2]] ;
false.

?- transpose([[1,2],[a,b]]).
ERROR: Syntax error: Illegal start of term
ERROR: transpose([[1,2],[a,b]],
ERROR: ** here **
ERROR: ) .
?- transpose([[1,2],[a,b]],A).
A = [[1, a], [2, b]]
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action? .

?- transpose([[1,2],[a,b,c]],A).
false.

?- █
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
?- prep_each([1,2],[[a],[ ]],
| Z).
Z = [[1, a], [2]] ;
false.

?- transpose([[1,2],[a,b]]).
ERROR: Syntax error: Illegal start of term
ERROR: transpose([[1,2],[a,b]],
ERROR: ** here **
ERROR: ) .
?- transpose([[1,2],[a,b]],A).
A = [[1, a], [2, b]]
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action? .

?- transpose([[1,2],[a,b,c]],A).
false.

?- transpose([[1,2],[a,b]],A).
A = [[1, a], [2, b]] ;
false.

?- █
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
Z = [[1, a], [2]] ;
false.

?- transpose([[1,2],[a,b]]).
ERROR: Syntax error: Illegal start of term
ERROR: transpose([[1,2],[a,b]],
ERROR: ** here **
ERROR: ) .
?- transpose([[1,2],[a,b]],A).
A = [[1, a], [2, b]]
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action? .

?- transpose([[1,2],[a,b,c]],A).
false.

?- transpose([[1,2],[a,b]],A).
A = [[1, a], [2, b]] ;
false.

?- boxes([[1,2,3,4],[a,b,c,d],[9,8,7,6],[l,k,j,h]],A).
A = [[1, 2, a, b], [3, 4, c, d], [9, 8, l, k], [7, 6, j, h]].

?- █
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
A = [[1, a], [2, b]]
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action? .

?- transpose([[1,2],[a,b,c]],A).
false.

?- transpose([[1,2],[a,b]],A).
A = [[1, a], [2, b]] ;
false.

?- boxes([[1,2,3,4],[a,b,c,d],[9,8,7,6],[l,k,j,h]],A).
A = [[1, 2, a, b], [3, 4, c, d], [9, 8, l, k], [7, 6, j, h]].

?- A=[[1,2,3,4],[a,b,c,d],[9,8,7,6],[l,k,j,h]], print_sudoku(A).
1 2 3 4
a b c d
9 8 7 6
l k j h

A = [[1, 2, 3, 4], [a, b, c, d], [9, 8, 7, 6], [l, k, j, h]] ;
false.

?- █
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
?- transpose([[1,2],[a,b,c]],A).
false.

?- transpose([[1,2],[a,b]],A).
A = [[1, a], [2, b]] ;
false.

?- boxes([[1,2,3,4],[a,b,c,d],[9,8,7,6],[l,k,j,h]],A).
A = [[1, 2, a, b], [3, 4, c, d], [9, 8, l, k], [7, 6, j, h]].

?- A=[[1,2,3,4],[a,b,c,d],[9,8,7,6],[l,k,j,h]], print_sudoku(A).
1 2 3 4
a b c d
9 8 7 6
l k j h

A = [[1, 2, 3, 4], [a, b, c, d], [9, 8, 7, 6], [l, k, j, h]] ;
false.

?- A=[[1,2,3,4],[a,b,c,d],[9,8,7,6],[l,k,j,h]], boxes(A,B), print_sudoku(B).
1 2 a b
3 4 c d
9 8 l k
7 6 j h

A = [[1, 2, 3, 4], [a, b, c, d], [9, 8, 7, 6], [l, k, j, h]],
B = [[1, 2, a, b], [3, 4, c, d], [9, 8, l, k], [7, 6, j, h]] █
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
?- boxes([[1,2,3,4],[a,b,c,d],[9,8,7,6],[l,k,j,h]],A).
A = [[1, 2, a, b], [3, 4, c, d], [9, 8, l, k], [7, 6, j, h]].

2- A=[[1,2,3,4],[a,b,c,d],[9,8,7,6],[l,k,j,h]], print_sudoku(A).
1 2 3 4
a b c d
9 8 7 6
l k j h
A = [[1, 2, 3, 4], [a, b, c, d], [9, 8, 7, 6], [l, k, j, h]] ;
false.

?- A=[[1,2,3,4],[a,b,c,d],[9,8,7,6],[l,k,j,h]], boxes(A,B), print_sudoku(B).
1 2 a b
3 4 c d
9 8 l k
7 6 j h

A = [[1, 2, 3, 4], [a, b, c, d], [9, 8, 7, 6], [l, k, j, h]],
B = [[1, 2, a, b], [3, 4, c, d], [9, 8, l, k], [7, 6, j, h]]
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action? .

?- A=[[1,2,3,4],[a,b,c,d],[9,8,7,6],[l,k,j,h]], boxes(A,B), print_sudoku(B). █
```

```
kalmera@userv: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
9 8 l k
7 6 j h

A = [[1, 2, 3, 4], [a, b, c, d], [9, 8, 7, 6], [l, k, j, h]],
B = [[1, 2, a, b], [3, 4, c, d], [9, 8, l, k], [7, 6, j, h]]
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action? .

?- A=[[1,2,3,4],[a,b,c,d],[9,8,7,6],[l,k,j,h]], boxes(A,B), print_sudoku(B).
1 2 a b
3 4 c d
9 8 l k
7 6 j h

A = [[1, 2, 3, 4], [a, b, c, d], [9, 8, 7, 6], [l, k, j, h]],
B = [[1, 2, a, b], [3, 4, c, d], [9, 8, l, k], [7, 6, j, h]]
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: B (h for help)
Action? .

?- █
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action? .

?- A=[[1,2,3,4],[a,b,c,d],[9,8,7,6],[l,k,j,h]], boxes(A,B), print_sudoku(B).
1 2 a b
3 4 c d
9 8 l k
7 6 j h

A = [[1, 2, 3, 4], [a, b, c, d], [9, 8, 7, 6], [l, k, j, h]],
B = [[1, 2, a, b], [3, 4, c, d], [9, 8, l, k], [7, 6, j, h]]
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: B (h for help)
Action? .

?- example(X), print_sudoku(X).
_G343 _G346 _G349 _G352
_G358 _G361 3 2
_G373 _G376 _G379 _G382
4 _G391 _G394 1

X = [[_G11, _G14, _G17, _G20], [_G26, _G29, 3, 2], [_G41, _G44, _G47, _G50], [4, _G59, _G62, 1]]
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
9 8 l k
7 6 j h

A = [[1, 2, 3, 4], [a, b, c, d], [9, 8, 7, 6], [l, k, j, h]],
B = [[1, 2, a, b], [3, 4, c, d], [9, 8, l, k], [7, 6, j, h]]
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: B (h for help)
Action? .

?- example(X), print_sudoku(X).
_G343 _G346 _G349 _G352
_G358 _G361 3 2
_G373 _G376 _G379 _G382
4 _G391 _G394 1

X = [[_G11, _G14, _G17, _G20], [_G26, _G29, 3, 2], [_G41, _G44, _G47, _G50], [4, _G59, _G62, 1]]
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action? .

?- example(X), print_sudoku(X).
```

```
kalmera@user: ~/vm13
Datei Bearbeiten Ansicht Terminal Hilfe
Unknown action: B (h for help)
Action? .

?- example(X), print_sudoku(X).
_G343 _G346 _G349 _G352
_G358 _G361 3 2
_G373 _G376 _G379 _G382
4 _G391 _G394 1

X = [[_G11, _G14, _G17, _G20], [_G26, _G29, 3, 2], [_G41, _G44, _G47, _G50], [4, _G59, _G62, 1]]
Unknown action: (h for help)
Action?
Unknown action: [ (h for help)
Action?
Unknown action: A (h for help)
Action? .

%
3 2 1 4
1 4 3 2
2 1 4 3
4 3 2 1

3 2 1 4 ;
false.

?-
```