Full Demo:

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Welcome to SWI-Prolog (threaded, 64 bits, version 8.0.3)
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For online help and background, visit http://www.swi-prolog.org
For built-in help, use ?- help(Topic). or ?- apropos(Word).

?- consult('lp.pro').
true.

?- first([2,4,5,7],First).
First = 2.

?- rest([2,4,5,7],Rest).
Rest = [4, 5, 7].

?- last_element([2,4,5,7],LastElement).
LastElement = 7 .

?- write_list([1,2,3,4,5,6]).
1
2
3
4
5
6
true.


?- consult('lp.pro').
true.

?- write_list([4,5,8,9]).
4
5
8
9
true.

?- write_list_reversed([5,9,6,3]).
3
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```
6
9
5
true.

?- size([1,2,3,4,5,6],Size).
Size = 6.

?- count(4,[3,4,5,4,9,4,6,7,8,4],Count).
Count = 4 .

?- count(5,[3,4,5,4,9,4,6,7,8,4],Count).
Count = 1 .

?- element_of(2,[4,5,8,3,2,7]).
true .

?- element_of(9,[4,5,8,3,2,7]).
false.

?- contains([4,5,9,7,3,1,6],2).
false.

?- contains([4,5,9,7,3,1,6],4).
true .

?- element_of(9,[4,5,8,3,2,7]).

?- element_of(3,[4,5,8,3,2,7]).
true .

?- nth(0,[5,8,7,3,2],Position).
Position = 5 .

?- nth(0,[5,8,7,3,2],ValueInThePosition).
ValueInThePosition = 5 .

?- nth(4,[5,8,7,3,2],ValueInThePosition).
ValueInThePosition = 2 .

?- nth(1,[5,8,7,3,2],ValueInThePosition).
ValueInThePosition = 8 .
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?- pick([1,2,3,4,5,6],Item).
Item = 2 .

?- pick([1,2,3,4,5,6],Item).
Item = 5 .

?- pick([1,2,3,4,5,6],Item).
Item = 1 .

?- pick([1,2,3,4,5,6],Item).
Item = 5 .

?- pick([1,2,3,4,5,6],Item).
Item = 4 .

?- sum([1,1,1,1,1,1,1,1,1],Sum).
Sum = 9.

?- sum([8,7,6,2,4,5,11,2],Sum).
Sum = 45.

?- make_list(3,L,List).
List = [L, L, L] .

?- iota(6,Iota).
Iota = [1, 2, 3, 4, 5, 6] .

?- iota(2,Iota).
Iota = [1, 2] .

?- iota(25,Iota).
Iota = [1, 2, 3, 4, 5, 6, 7, 8, 9|...] .

?- add_first(2,[3,4,5,6],List).
List = [2, 3, 4, 5, 6].

?- add_first(7,[3,4,5,6],List).
List = [7, 3, 4, 5, 6].

?- add_last(2,[3,4,5,6],List).
List = [3, 4, 5, 6, 2] .

?- add_last(7,[3,4,5,6],List).
```

List = [3, 4, 5, 6, 7] .

?- esrever([1,2,3,4,5,6],Reverse).
Reverse = [6, 5, 4, 3, 2, 1] .

?- esrever([5,4,7,3,1,9],Reverse).
Reverse = [9, 1, 3, 7, 4, 5] .

?- join_lists([1,2,3,4],[5,6,7,8],Join).
Join = [1, 2, 3, 4, 5, 6, 7, 8].

?- join_lists([1,2,3,4],[5,6,7,8],[1,5,9],Join).
Join = [1, 2, 3, 4, 5, 6, 7, 8, 1|...].

?- product([1,2,3],Product).
Product = 6.

?- product([1,2,30],Product).
Product = 60.

?- product([1,1,1,1,1],Product).
Product = 1.

?- factorial(4,Factorial).
Factorial = 24 .

?- factorial(1,Factorial).
Factorial = 1 .

?- factorial(9,Factorial).
Factorial = 362880 .

?- make_set([1,4],Set).
Set = [1, 4].

?- make_set([1,4,2],Set).
Set = [1, 4, 2].

?- make_set([1,4,2,7,9,2],Set).
Set = [1, 4, 7, 9, 2] .

?- make_set([1,4],Set).

```
Set = [1, 4].

?- make_set([1,4,2],Set).
Set = [1, 4, 2].

?- make_set([1,4,2,7,9,2],Set).
Set = [1, 4, 7, 9, 2] .

?- replace(2,Object,[0,1,2,3,4],List).
List = [0, 1, Object, 3, 4] .

?- replace(0,replacingWith,[0,1,2,3,4],List).
List = [replacingWith, 1, 2, 3, 4]

?- replace(5,5,[0,1,2,3,4],List).
false.

?- remove(3,[1,2,3,4,5,6],List).
List = [1, 2, 4, 5, 6] .

?- remove(8,[1,8,6,7,3],List).
List = [1, 6, 7, 3] .

?- remove(0, [1,8,6,7,3], List).
List = [1, 8, 6, 7, 3] .

?- take([3,7,9,2,6,1],Element, Rest).
Element = 1,
Rest = [3, 7, 9, 2, 6] .

?- take([3,7,9,2,6,1],Element, Rest).
Element = 9,
Rest = [3, 7, 2, 6, 1] .

?- take([3,7,9,2,6,1],Element, Rest).
Element = 6,
Rest = [3, 7, 9, 2, 1] .

?- take([3,7,9,2,6,1],Element, Rest).
Element = 9,
Rest = [3, 7, 2, 6, 1] .

?- take([3,7,9,2,6,1],Element, Rest).
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```
Element = 1,
Rest = [3, 7, 9, 2, 6] .


?- split([[1,2],[3,4],[5,6]],L1,L2).
L1 = [1, 3, 5],
L2 = [2, 4, 6].
?- min_pair(2,9, Min).
Min = 2 .

?- min_pair(7,6, Min).
Min = 6.

?- min_pair(7,8, Min).
Min = 7 .

?- max_pair(2,9, Max).
Max = 9.

?- max_pair(7,6, Max).
Max = 7 .

?- max_pair(7,8, Max).
Max = 8.

?- min([1,8,9,4,6,2],Minimum).
Minimum = 1 .

?- min([10,8,9,4,6,2],Minimum).
Minimum = 2 .

?- max([1,8,9,4,6,2],Minimum).
Minimum = 9 .

?- max([10,8,9,4,6,2],Maximum).
Maximum = 10 .

?- sort_inc([5,7,3,1,9,0],IncreasingList).
IncreasingList = [0, 1, 3, 5, 7, 9] .

?- sort_inc([5,6,8,7,2,4,0],IncreasingList).
IncreasingList = [0, 2, 4, 5, 6, 7, 8] .
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?- sort_dec([5,7,3,1,9,0],DecreasingList).
DecreasingList = [9, 7, 5, 3, 1, 0] .

?- sort_dec([4,9,8,2,15,3],DecreasingList).
DecreasingList = [15, 9, 8, 4, 3, 2] .

?- a_list( [one, two, three, four],[1,2,3,4], List).
List = [pair(one, 1), pair(two, 2), pair(three, 3), pair(four, 4)|_3708] .

?- a_list( [one, two, three, four],[uno, dos, tres, quatro], List).
List = [pair(one, uno), pair(two, dos), pair(three, tres), pair(four, quatro)|_3720] .
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