⚙ *grandfather(X,mary).*

X = john1
X = peter
false

⚙ *grandparent(X,jay).*

X = john1
X = sue
X = peter
X = ida
false

⚙ *ancestor(X,estelle).*

X = john1
X = sue
false

⚙ *ancestor(X,john2).*

X = estelle
X = george
X = john1
X = sue
X = peter
X = ida
false

⚙ *uncle(X,mary).*

X = rob
false

⚙ *brother(X,mary).*

X = john2
X = jay
false

⚙ *a_pair_of_brother(X,Y).*

X = john2,
Y = jay
X = jay,
Y = john2
false

⚙ *mother_in_law(X,Y).*

X = sue,
Y = george
X = ida,
Y = estelle
false

```prolog
%QUESTION 2

city(chicago).
city(toronto).
city(detroit).
city(orlando).
city(vancouver).
city(new_york).

american(chicago).
american(detroit).
american(orlando).
american(new_york).
canadian(toronto).
canadian(vancouver).

airport(chicago, ohare).
airport(chicago, midway).
airport(toronto,pearson).
airport(toronto,bishop).
airport(detroit, wayne).
airport(detroit, city).
airport(orlando, international).
airport(orlando, sanford).
airport(vancouver, international2).
airport(vancouver, coal_harbour).
airport(new_york, la_guardia).
airport(new_york, jfk).
airport(new_york, newark).

hero(ohare).
hero(ohata).
hero(okubo).
hero(mccarter).
hero(hawkins).
hero(harris).
battle(midway).
battle(stalingrad).
battle(berlin).
battle(iwo_jima).

query(C) :-
    airport(C, A), hero(A),
    airport(C, B), battle(B), A\=B, american(C).
```

query(X).

X = chicago

| Next | 10 | 100 | 1,000 | Stop |

?- query(X).

last(Last,[Harry,Sally,Mary,Kane]).
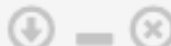
Kane = Last

last(4,[1,2,3,4]).

true   *1*

last(3,[1,2,3,4]).

alse
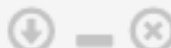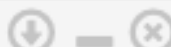
last(1,[1,2,3,4]).
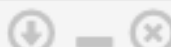
alse

adjacent(1,2,[1,2,3,4]).
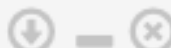
true   *1*

adjacent(1,4,[1,2,3,4]).
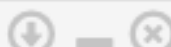
alse

palindrome([1,2,1]).

true   *1*

palindrome([1,2,3]).

alse
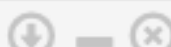
palindrome([1,2,3,2,1]).

true   *1*

palindrome([1,2,3,2,15]).

alse

?- palindrome([1,2,3,2,15]).

fib(X,0).   ⊕ — ⊗

X = 1

fib(X,1).   ⊕ — ⊗

X = 1

fib(X,2).   ⊕ — ⊗

X = 3

fib(X,3).   ⊕ — ⊗

X = 5

fib(X,5).   ⊕ — ⊗

X = 8

fib(X,8).   ⊕ — ⊗

X = 13

fib(X,13).   ⊕ — ⊗

X = 21

fib(X,21).   ⊕ — ⊗

X = 34

fib(X,34).   ⊕ — ⊗

X = 55

fib(X,55).   ⊕ — ⊗

X = 89

fib(X,89).   ⊕ — ⊗

X = 144

fib(X,144).   ⊕ — ⊗

X = 233

fib(X,233).   ⊕ — ⊗

X = 377

fib(X,1597).   ⊕ — ⊗

X = 2584

sum([1,2,3,4,5],Sum).
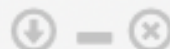
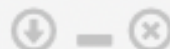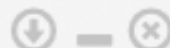**Sum** = 15

sum([450,3403,235],Sum).
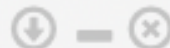
Sum = 4088
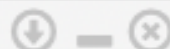
sum([1,2,3,4,9,8,7,6,5],Sum).
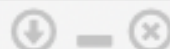
Sum = 45

mean([1,2,3],Mean).
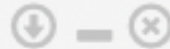
Mean = 2

mean([1,9999],Mean).

Mean = 5000

mean([1,3,1,3,1,3,1,3],Mean).
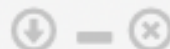
Mean = 2

| Next | 10 | 100 | 1,000 | Stop |

min([34,34,23452,1,45], Min).

Min = 1

min([23,25,47,7,3], 3).

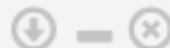**true**   *1*

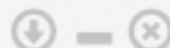*max*([23,42,24,1000,34], Max).

Max = 1000

max([1,1000,2,3,4,5], 1000).

true   *1*

?- `max([1,1000,2,3,4,5], 1000).`