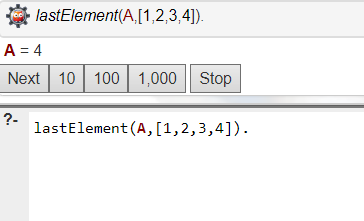
**5.- Write a predicate last/2 which takes a list as its first argument and returns the last element of the list.**

lastElement(A,[A]).

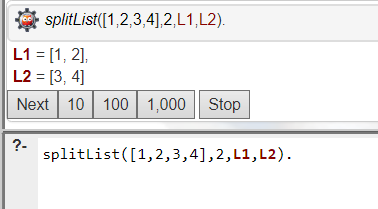
lastElement(A,[\_|B]) :- lastElement(A,B).

******

**6.- Write a predicate split/4that splits a lis tintotwo parts, the length of the first part is given.**

splitList(A,0,[],A).

splitList([B|Bs],C,[B|Ds],Es) :- C > 0, C1 is C - 1, splitList(Bs,C1,Ds,Es).

******

**7. Write a predicate fact/2which takes a natural number as first argument, and returns the factorial of the number.**

factorial(0,1).

factorial(N, F):-

N > 0,

N1 is N-1, factorial(N1, F1), F is N \* F1.

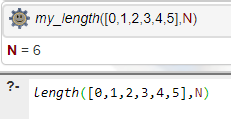
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**9. Write a predicate length2/2 which takes a list as first argument, and returns in the second one the number of elements in the list.**

length([],0).

length([\_|L],N) :- my\_length(L,N1), N is N1 + 1.

****

**16. Define sum/2 to take a list of integers as input and return the output as their sum.**

sum(L, N):-

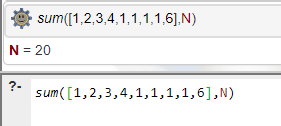
sum(L, 0, N).

sum([],N,N).

sum([H|T],A,N) :-

A1 is A + H,

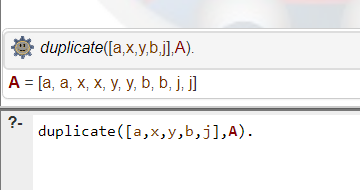
sum(T,A1,N).



**18. Write a predicate dupli/2which takes two inputs: the first is a list, and the second will be the list with every element duplicated.**

duplicate([],[]).

duplicate([A|As],[A,A|Bs]) :- duplicate(As,Bs).

******

**20. Write a predicate npli/3which takes threeinputs: the first is a list, the second is the number of times that every elements will be copied and the third element is the new list.**

duplicateList(L1,N,L2) :- duplicateList(L1,N,L2,N).

duplicateList([],,[],).

duplicateList([\_|As],B,Cs,0) :- duplicateList(As,B,Cs,B).

duplicateList([A|As],B,[A|Cs],D) :- D > 0, D1 is D - 1, duplicateList([A|As],B,Cs,D1).

duplicateList([1,2,3,d],4,X).

