

$\text{app}([a,b], [1,2,3], L)$
 $L = [a,b,1,2,3]$

$\text{app}([H|L1], L2, [H|L3]) :- \text{app}(L1, L2, L3).$
 $\quad \quad \quad a \quad [b,1,2,3] \quad \quad \quad [b] \quad [1,2,3] \quad \quad \quad [b,1,2,3]$

$H = a$
 $L1 = [b]$
 $L2 = [1,2,3]$

$\text{app}([H|L1], L2, [H|L3]) :- \text{app}(L1, L2, L3)$
 $\quad \quad \quad b \quad [1,2,3] \quad \quad \quad [] \quad [1,2,3]$

$H = b$
 $L1 = []$

$L2 = [1,2,3]$

$L3 = [1,2,3]$

$\text{app}([], L, L).$

$L = [1,2,3]$