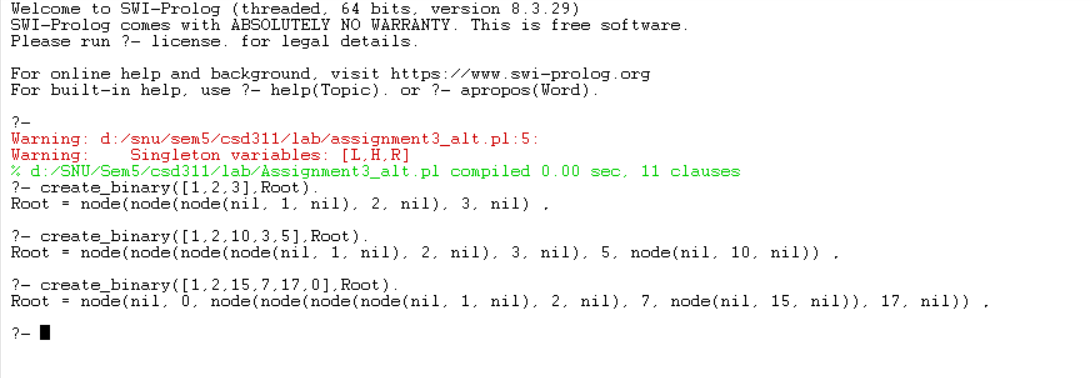
Assignment 3 CSD311

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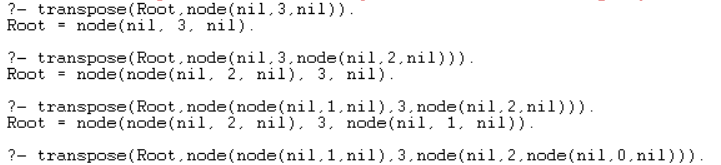
Prefix or suffix of List

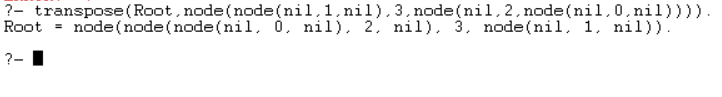


Insert in a binary search tree and create binary search tree using insert

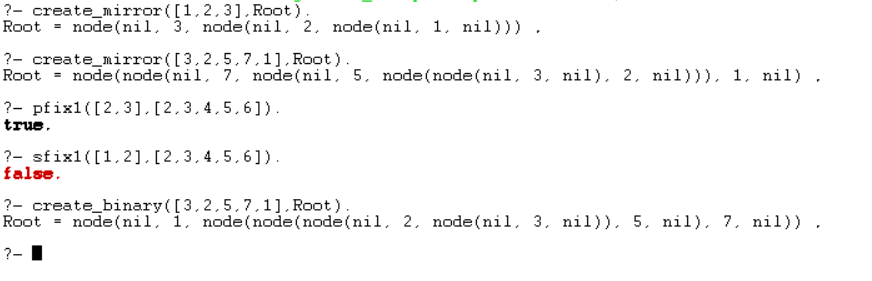


Create mirror image (transpose)





Given Test cases:



Code:

pfix1(L,M) :- append(L,\_,M).

sfix1(L,M) :- append(\_,L,M).

q1\_alt(L,M) :- pfix1(L,M); sfix1(L,M).

node(L,H,R).

insert\_key(K,nil,node(nil,K,nil)).

insert\_key(K,node(LS,H,RS),node(NLS,H,RS)):-K<H,insert\_key(K,LS,NLS).

insert\_key(K,node(LS,H,RS),node(LS,H,NRS)):-K>H,insert\_key(K,RS,NRS).

create\_binary([],nil).

create\_binary([H|T],T1):- create\_binary(T, Res), insert\_key(H,Res,T1).

transpose(nil,nil).

transpose(tree(Left,Head,Right), NewTree) :-

transpose(Left,NewLeft),

transpose(Right,NewRight),

NewTree = tree(NewRight,Head,NewLeft).

mirror(K,nil,node(nil,K,nil)).

mirror(K,node(LS,H,RS),node(NLS,H,RS)):-K>H,mirror(K,LS,NLS).

mirror(K,node(LS,H,RS),node(LS,H,NRS)):-K<H,mirror(K,RS,NRS).

create\_mirror([],nil).

create\_mirror([H|T],T1):- create\_mirror(T, Res), mirror(H,Res,T1).