DEFINITION:
foo (x)
=
if consp (car (x)) **then** cons (`"CAR is a CONS"`, **nil**)
else cons (`0`, cdr (x))
endif
guard:consp (x)

DEFINITION:
app (x, y)
=
if null (x) **then** y
else cons (car (x), app (cdr (x), y))
endif
guard:true-listp (x)

DEFINITION:
true-listp (x)
=
if consp (x) **then** true-listp (cdr (x))
elseif x = **nil** **then t**
else nil
endif

DEFINITION:
foo (*a1*, *an*) = *body*
guard:*guard-form*

THEOREM: foo
tc-all-called-functions-complete (*guard-form*, *fs*)
$\wedge$ tc-all-called-functions-complete (*body*, *fs*)
$\rightarrow$ good-signaturep (*foo*, *guard*, *segments*, *world*, *clock*)

'(acl2::defthm acl2::foo1 (acl2::implies (and (acl2::well-formed-signature-1 acl2::guard acl2::segments acl2::n) acl2::for acl2::any acl2::lisp values acl2::arg$_1$ acl2::dots acl2::arg$_n$ (#:|comma| (and (not (break-out-of-timep (foo^{world} ($\cdot$|*comma*| *clock*) (arg$_1$ dots arg$_n$)))) (not (null (e guard-form ((a$_1$. arg$_1$) dots (a$_n$. arg$_n$)) world clock)))))) (and (not (acl2::break-guard-violationp (acl2::foo$^{acl2\cdot\cdot world}$ ($\cdot$|*comma*| *clock*) (acl2::arg$_1$ acl2::dots acl2::arg$_n$)))) acl2::for some acl2::k acl2::in acl2::[1dotsm] acl2::for some acl2::binding acl2::b acl2::of type acl2::variables acl2::to acl2::lisp values acl2::covering acl2::td$_k$ ($\cdot$|*comma*| 1) acl2::dots acl2::td$_k$ ($\cdot$|*comma*| *n*) and acl2::td$_k$ (acl2::i (acl2::td$_k$ ($\cdot$|*comma*| 1) acl2::dots acl2::td$_k$ ($\cdot$|*comma*| *n*) acl2::td$_k$) (acl2::arg$_1$ acl2::dots acl2::arg$_n$ (acl2::foo$^{acl2\cdot\cdot world}$ ($\cdot$|*comma*| *clock*) (acl2::arg$_1$ acl2::dots acl2::arg$_n$))) acl2::b))))'