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function defarg( arg, val, nullok )

% DEFARG  Assign a default value to an argument.
%
% defarg( arg, val )
%     - <arg> is the string name of the argument
%     - <val> is the value to be assigned to <arg> if it
doesn't exist
%
% e.g., defarg( 'arg1', -1 )
%     defarg( 'arg2', 'none' )

% 18-Feb-98 -- created (RFM)
% 20-Feb-98 -- added ability to handle fields of structures
(RFM)
% 10-Dec-98 -- replaced evalin with assignin, as suggested
by CPT (RFM)

% This could be cleaned up a lot.

if nargin<3,
    nullok=0;
end

% are we assigning a field of a structure array?
p=strchr(arg, '.');
if p==0,
    if
    (evalin('caller',sprintf('exist('%s','var')',arg))==0)
    | ...
    ( (evalin('caller',sprintf('isempty(%s)',arg))==1)
& (nullok==0) ),
        assignin('caller',arg,val);
    end

% yes, we are
else
    f1=arg(1:p-1);
    f2=arg(p+1:end);

baseexists=evalin('caller',sprintf('exist('%s','var')',

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f1));
    if baseexists,

fieldexists=evalin('caller',sprintf('isfield(%s,'%s')',f1
,f2));
    else
        fieldexists=0;
    end
    if ~( baseexists & fieldexists ),
        if ischar(val),

evalin('caller',sprintf('%s='%s'';',arg,val));
        else
            evalin('caller',sprintf('%s=%f;',arg,val));
        end
    end
end
end

return

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% STRCHR Find first occurrence of a character in a string
function pos = strchr( str, chr )
p=find(str==chr(1));
if isempty(p),
    pos=0;
else
    pos=p(1);
end
return

```