```
function x=backsub(A)

% This function performs back substitution on an upper triangular
 matrix that has
% been modified by concatenating the RHS of the system.
% Note that B is assumed to be upper triangular at this point.


n=size(A,1);                    %number of unknowns in the system
x=zeros(n,1);                   %space in which to store our solution
 vector
x(n)=A(n,n+1)/A(n,n);           %finalized solution for last variable,
 resulting from upper triangular conversion

for ir1=n-1:-1:1
    x(ir1)=A(ir1,n+1);       %assume we're only dealing with a single
 right-hand side here.
    fact=A(ir1,ir1);         %diagonal element to be divided through
 doing subs for the ir2 row
    for ic=ir1+1:n
        x(ir1)=x(ir1)-A(ir1,ic)*x(ic);
    end %for
    x(ir1)=x(ir1)/fact;      %divide once at the end to minimize
 number of ops
end %for

end %function
```

Published with MATLAB® R2020a