```
%=================================================================
% Program that implements the classical Gram-Schmidt algorithm for
% computing the QR factorization of a m by n matrix A, where m>=n.
% m equally spaced points over [0,1]
% input : real m by n matrix A
% output : real m by n matrix q
%          real n by n matrix r
%=================================================================

%Classical Gram-Schmidt
function [q,r] = CGS(A)

[m,n] = size(A);

q = zeros(m,n);
r = zeros(n,n);
v = zeros(m,n);

for j=1:n

   v(:,j) = A(:,j);

   for i = 1:j-1

      r(i,j) = q(:,i)'*A(:,j);
      v(:,j) = v(:,j) - r(i,j)*q(:,i);

   end

   r(j,j) = norm(v(:,j),2);
   q(:,j) = v(:,j)/r(j,j);

end
end
```

```
Not enough input arguments.

Error in CGS (line 13)
[m,n] = size(A);
```

Published with MATLAB® R2020b