```
>> A=Vandermonde(5)

A =

    1.0000         0         0         0         0
    1.0000    0.2500    0.0625    0.0156    0.0039
    1.0000    0.5000    0.2500    0.1250    0.0625
    1.0000    0.7500    0.5625    0.4219    0.3164
    1.0000    1.0000    1.0000    1.0000    1.0000

>> [W,R]=house(A)

W =

    0.8507         0         0         0         0
    0.2629   -0.7486         0         0         0
    0.2629    0.1305   -0.9421         0         0
    0.2629    0.3418   -0.3343   -0.8004         0
    0.2629    0.5530    0.0265    0.5995   -1.0000


R =

   -2.2361   -1.1180   -0.8385   -0.6988   -0.6184
    0.0000    0.7906    0.7906    0.7609    0.7313
    0.0000    0.0000    0.2339    0.3508    0.4155
    0.0000    0.0000         0    0.0593    0.1186
    0.0000    0.0000         0    0.0000    0.0112

>> Q=formQ(W)

Q =

   -0.4472   -0.6325    0.5345   -0.3162    0.1195
   -0.4472   -0.3162   -0.2673    0.6325   -0.4781
   -0.4472         0   -0.5345    0.0000    0.7171
   -0.4472    0.3162   -0.2673   -0.6325   -0.4781
   -0.4472    0.6325    0.5345    0.3162    0.1195

>> [q,r]=qr(A)

q =

   -0.4472   -0.6325    0.5345   -0.3162   -0.1195
   -0.4472   -0.3162   -0.2673    0.6325    0.4781
   -0.4472    0.0000   -0.5345   -0.0000   -0.7171
   -0.4472    0.3162   -0.2673   -0.6325    0.4781
   -0.4472    0.6325    0.5345    0.3162   -0.1195


r =
```

```
   -2.2361   -1.1180   -0.8385   -0.6988   -0.6184
         0    0.7906    0.7906    0.7609    0.7313
         0         0    0.2339    0.3508    0.4155
         0         0         0    0.0593    0.1186
         0         0         0         0   -0.0112

>> norm(A-Q*R,2)

ans =

   1.6103e-15

>> norm(A-q*r,2)

ans =

   1.0040e-15

>> norm(Q'*Q-eye(5),2)

ans =

   9.4520e-16

>> norm(q'*q-eye(5),2)

ans =

   4.7902e-16

>>
```