```
P = [0.3 0.9 0.5 0.3 0.6; 0.1 0.2 0.8 0.2 0.2; 0.4 0.6 0.9 0.3 0.6;
 0.1 0.5 0.7 0.8 0.4; 0.5 0.3 0.9 0.4 0.3];
H = hilb(5);
b = [0.2; 0.7; 0.1; 0.8; 0.3];
db = 0.001.*[0.1; 0.7; 0.3; 0.2; 0.1];
dA = zeros(5,5);
for i=1:5
   for j=1:5
      dA(i,j) = 1e-5.*(-1).^(i+j);
   end
end

format shortEng

x0 = P\b
x1 = P\(b+db)
x2 = (P+dA)\b

x3 = H\b
x4 = H\(b+db)
x5 = (H+dA)\b

KP = norm(P,inf).*norm(inv(P),inf)
KH = norm(H,inf).*norm(inv(H),inf)

p1 = (norm(x1-x0,Inf)./norm(x0,Inf))./(norm(db,Inf)./norm(b,Inf))
p2 = (norm(x2-x0,Inf)./norm(x0,Inf))./(norm(dA,Inf)./norm(P,Inf))

h1 = (norm(x4-x3,Inf)./norm(x3,Inf))./(norm(db,Inf)./norm(b,Inf))
h2 = (norm(x5-x3,Inf)./norm(x3,Inf))./(norm(dA,Inf)./norm(H,Inf))


x0 =

    -1.2703e+000
     1.4595e+000
     1.1622e+000
   432.4324e-003
    -2.4054e+000


x1 =

    -1.2717e+000
     1.4600e+000
     1.1634e+000
   431.7380e-003
    -2.4060e+000


x2 =
```

```
    -1.2700e+000
     1.4594e+000
     1.1621e+000
   432.4008e-003
    -2.4053e+000


x3 =

    -1.0310e+003
    19.1340e+003
   -82.1520e+003
   123.6760e+003
   -60.3540e+003


x4 =

    -1.0311e+003
    19.1358e+003
   -82.1592e+003
   123.6864e+003
   -60.3590e+003


x5 =

  -107.7155e+000
     1.9210e+003
    -7.9557e+003
    11.6128e+003
    -5.5182e+003


KP =

    51.9846e+000


KH =

   943.6560e+003


p1 =

   689.4880e-003


p2 =

     5.6396e+000
```

```
h1 =

    96.2515e-003

h2 =

    41.3787e+003
```

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