```
clear
```

```
thetalist0 = [-.143, 1.2348,-1.1,-2.5,2.999,-1.571]'
```

```
thetalist0 = 6×1
   -0.1430
    1.2348
   -1.1000
   -2.5000
    2.9990
   -1.5710
```

```
M = [-1 0 0 .817; 0 0 1 .191; 0 1 0 -.006; 0 0 0 1]
```

```
M = 4×4
   -1.0000        0        0    0.8170
        0        0    1.0000    0.1910
        0    1.0000        0   -0.0060
        0        0        0    1.0000
```

```
Blist= [[0; 1; 0; .109; 0;.817], ...
        [0; 0; 1; .095; -.817;0],...
        [0; 0; 1; .095; -.392;0], ...
        [0; 0; 1; .095; 0;0], ...
        [0; -1; 0; -.095; 0;0], ...
        [0; 0; 1; 0; 0;0]]
```

```
Blist = 6×6
        0        0        0        0        0        0
   1.0000        0        0        0   -1.0000        0
        0    1.0000    1.0000    1.0000        0    1.0000
   0.1090    0.0950    0.0950    0.0950   -0.0950        0
        0   -0.8170   -0.3920        0        0        0
   0.8170        0        0        0        0        0
```

```
eomg= .001;
ev= .001;
```

```
T = [0 1 0 -.5; 0 0 -1 .1; -1 0 0 .1; 0 0 0 1]
```

```
T = 4×4
        0    1.0000        0   -0.5000
        0        0   -1.0000    0.1000
   -1.0000        0        0    0.1000
        0        0        0    1.0000
```

```
[thetalist] = IKinBodyIterations(Blist, M, T, thetalist0, eomg, ev)
```

```
iteration =
     0

theta =
   -0.1430
    1.2348
   -1.1000
```

```
   -2.5000
    2.9990
   -1.5710

Tsb =
    0.6937   -0.6786   -0.2414    0.5681
   -0.0999    0.2413   -0.9653   -0.0807
    0.7133    0.6937    0.0996   -0.2877
         0         0         0    1.0000

Vb =
   -0.0002
    0.3366
   -2.3409
   -1.4681
   -0.0610
   -0.0357

error =
    2.3650    1.4698

iteration =
     1

theta =
   -0.0980
    3.8975
   -2.2188
   -1.8949
    2.9668
   -1.7892

Tsb =
   -0.0027    0.9974    0.0727   -0.3212
   -0.0376    0.0725   -0.9967    0.0337
   -0.9993   -0.0054    0.0373   -0.0984
         0         0         0    1.0000

Vb =
    0.0727
    0.0375
    0.0041
   -0.1993
   -0.1767
   -0.0691

error =
    0.0819    0.2752

iteration =
     2

theta =
   -0.2395
    4.4559
   -1.9638
   -2.4166
    2.9077
   -1.4926

Tsb =
    0.0048    1.0000   -0.0062   -0.4122
    0.0175   -0.0063   -0.9998    0.1020
   -0.9998    0.0047   -0.0175    0.1666
```

```
        0          0          0     1.0000

Vb =
   -0.0063
   -0.0175
   -0.0048
    0.0664
   -0.0879
    0.0028

error =
    0.0192     0.1102

iteration =
     3

theta =
   -0.1881
    4.1675
   -1.7939
   -2.3591
    2.9540
   -1.5558

Tsb =
    0.0007     1.0000    -0.0006    -0.4922
    0.0027    -0.0006    -1.0000     0.0949
   -1.0000     0.0007    -0.0027     0.0849
        0          0          0     1.0000

Vb =
   -0.0006
   -0.0027
   -0.0007
   -0.0151
   -0.0078
   -0.0051

error =
    0.0029     0.0177

iteration =
     4

theta =
   -0.1950
    4.1747
   -1.7540
   -2.4213
    2.9466
   -1.5714

Tsb =
   -0.0000     1.0000    -0.0000    -0.4997
   -0.0001    -0.0000    -1.0000     0.1000
   -1.0000    -0.0000     0.0001     0.1003
        0          0          0     1.0000

Vb =
   1.0e-03 *

   -0.0211
    0.1109
    0.0203
```

```
    0.3131
   -0.3347
   -0.0237

error =
   1.0e-03 *

    0.1147    0.4589
thetalist = 6×1
   -0.1950
    4.1747
   -1.7540
   -2.4213
    2.9466
   -1.5714
```