

```
>> Blist=[0 0 0 0 0 0; 1 0 0 0 -1 0; 0 1 1 1 0 1; 0.191 0.095 0.095 0.095 -0.082 0; 0 -0.817 -0.392 0 0 0; 0.817 0 0 0 0 0]
```

```
Blist =
```

```

    0         0         0         0         0         0
  1.0000         0         0         0    -1.0000         0
    0    1.0000    1.0000    1.0000         0    1.0000
  0.1910    0.0950    0.0950    0.0950   -0.0820         0
    0   -0.8170   -0.3920         0         0         0
  0.8170         0         0         0         0         0
```

```
>> M=[-1 0 0 0.817; 0 0 1 0.191; 0 1 0 -0.006; 0 0 0 1]
```

```
M =
```

```

 -1.0000         0         0    0.8170
         0         0    1.0000    0.1910
         0    1.0000         0   -0.0060
         0         0         0    1.0000
```

```
>> eomg=0.001;
```

```
>> ev=0.0001;
```

```
>> thetalist0=[0.8; -0.8; 0.8; -1.5; -1.6; 0.8];
```

```
>> T=[0 1 0 -0.5; 0 0 -1 0.1; -1 0 0 0.1; 0 0 0 1]
```

```
>> T=[0 1 0 -0.5; 0 0 -1 0.1; -1 0 0 0.1; 0 0 0 1]
```

```
T =
```

```

         0    1.0000         0   -0.5000
         0         0   -1.0000    0.1000
 -1.0000         0         0    0.1000
         0         0         0    1.0000
```

```
>> IKinBodyIterates(Blist, M, T, thetalist0, eomg, ev)
```

```
Iteration: 0
```

```
Joint Vector (thetalist): [0.8;-0.8;0.8;-1.5;-1.6;0.8]
```

```
End-Effector Configuration (Tsb_theta):
```

```

  0.0020   -0.9996   -0.0283    0.4649
 -0.9975   -0.0000   -0.0711    0.6317
  0.0710    0.0284   -0.9971    0.3054
         0         0         0    1.0000
```

```
Error Twist (Vb): [-2.12678237834773;0.0301673507501911;-2.28369672870459;-0.729480160421994;0.310103675
```

```
Norm of Rotational Part (||wb||): 3.120799
```

```
Norm of Translational Part (||vb||): 1.625546
```

```
Iteration: 1
```

```
Joint Vector (thetalist): [1.52248870516836;0.567254756282794;1.76388850311207;-2.30606520714667;-0.0442
```

```
End-Effector Configuration (Tsb_theta):
```

```

 -0.0038   -0.0018   -1.0000   -0.1867
 -0.7689   -0.6394    0.0041    0.0914
 -0.6394    0.7689    0.0011   -0.5183
         0         0         0    1.0000
```

```
Error Twist (Vb): [-1.46337843534371;0.687286948046493;-0.682877709780661;-0.650203228840793;0.018433418
```

```
Norm of Rotational Part (||wb||): 1.755039
```

```
Norm of Translational Part (||vb||): 0.760307
```

```

Iteration: 2
Joint Vector (thetalist): [6.40907271194737;-4.60143822354067;1.30604793122248;20.7539143443975;3.359942
End-Effector Configuration (Tsb_theta):
    0.1748   -0.9810    0.0841   -0.3450
   -0.1961   -0.1185   -0.9734   -0.0145
    0.9649    0.1537   -0.2131   -0.4279
         0         0         0         1.0000

Error Twist (Vb): [-0.308628494690809;-0.152782760854437;-2.95545765980124;-0.301655057010596;0.73529507
Norm of Rotational Part (||wb||): 2.975454
Norm of Translational Part (||vb||): 0.815819

Iteration: 3
Joint Vector (thetalist): [5.68645126639505;-2.44996840264213;-1.87786332368355;19.9880075589661;3.39151
End-Effector Configuration (Tsb_theta):
   -0.0795    0.9370   -0.3401   -0.3628
    0.0162   -0.3399   -0.9403    0.2822
   -0.9967   -0.0802    0.0118    0.0926
         0         0         0         1.0000

Error Twist (Vb): [-0.347363636021768;-0.00225200080689488;0.0815810453340179;-0.00249421153294507;-0.10
Norm of Rotational Part (||wb||): 0.356822
Norm of Translational Part (||vb||): 0.229352

Iteration: 4
Joint Vector (thetalist): [6.16748388656291;-2.44593369146499;-1.78872357176621;19.9731713674478;3.25590
End-Effector Configuration (Tsb_theta):
   -0.0052    1.0000   -0.0014   -0.4877
    0.0035   -0.0014   -1.0000    0.0844
   -1.0000   -0.0052   -0.0035    0.1079
         0         0         0         1.0000

```

Error Twist (Vb): [-0.00143546509189568;-0.00348786712382911;0.00519174801631004;0.00799611547750431;-0.000000000000000]
 Norm of Rotational Part (||wb||): 0.006417
 Norm of Translational Part (||vb||): 0.021367

Iteration: 5

Joint Vector (thetalist): [6.13951694560868;-2.47862246438937;-1.74277480730368;19.9215847143691;3.28520000000000]

End-Effector Configuration (Tsb_theta):

-0.0001	1.0000	-0.0001	-0.4996
-0.0011	-0.0001	-1.0000	0.1004
-1.0000	-0.0001	0.0011	0.1000
0	0	0	1.0000

Error Twist (Vb): [-6.1769812222409e-05;0.00111284413973505;0.00012917100356988;-3.19780154138081e-05;-0.000000000000000]

Norm of Rotational Part (||wb||): 0.001122

Norm of Translational Part (||vb||): 0.000588

Iteration: 6

Joint Vector (thetalist): [6.14040507304031;-2.47950659064886;-1.73964977159231;19.9270749085471;3.28436000000000]

End-Effector Configuration (Tsb_theta):

-0.0000	1.0000	-0.0000	-0.5000
-0.0000	-0.0000	-1.0000	0.1000
-1.0000	-0.0000	0.0000	0.1000
0	0	0	1.0000

Error Twist (Vb): [-4.32902300275088e-06;6.36349952945824e-06;9.51895361246278e-07;-1.29869735556465e-06;-0.000000000000000]

Norm of Rotational Part (||wb||): 0.000008

Norm of Translational Part (||vb||): 0.000001

ans =

6.1404
 -2.4795
 -1.7396
 19.9271
 3.2844
 -23.5620