```
%set up memory
links = zeros(6,4);
A = ones(4,4,length(links(:,1)));
T = ones(4,4,length(links(:,1)));

%go to home
theta = [0 0 0 0 0 0];
links(1,:) = [ .075 90 .330 theta(1)];
links(2,:) = [ .300 0 0 theta(2)];
links(3,:) = [ .075 90 0 theta(3)];
links(4,:) = [ 0 -90 .320 theta(4)];
links(5,:) = [ 0 90 0 theta(5)];
links(6,:) = [ 0 0 .080 theta(6)];

%get the A and T matrix
A = getA(links)
T = getT(A)

%plot
figure(1);
title('home position')
plotArm(T)


%go to work position
theta = [0 75 30 135 -45 60];
links(1,:) = [ .075 90 .330 theta(1)];
links(2,:) = [ .300 0 0 theta(2)];
links(3,:) = [ .075 90 0 theta(3)];
links(4,:) = [ 0 -90 .320 theta(4)];
links(5,:) = [ 0 90 0 theta(5)];
links(6,:) = [ 0 0 .080 theta(6)];
A = getA(links)
T = getT(A)

%plot the work position
figure(2)
plotArm(T)
title('work position')
```

```
A(:,:,1) =

    1.0000         0         0    0.0750
         0    0.0000   -1.0000         0
         0    1.0000    0.0000    0.3300
         0         0         0    1.0000


A(:,:,2) =

    1.0000         0         0    0.3000
```

```
         0    1.0000         0         0
         0         0    1.0000         0
         0         0         0    1.0000


A(:,:,3) =

    1.0000         0         0    0.0750
         0    0.0000   -1.0000         0
         0    1.0000    0.0000         0
         0         0         0    1.0000


A(:,:,4) =

    1.0000         0         0         0
         0    0.0000    1.0000         0
         0   -1.0000    0.0000    0.3200
         0         0         0    1.0000


A(:,:,5) =

    1.0000         0         0         0
         0    0.0000   -1.0000         0
         0    1.0000    0.0000         0
         0         0         0    1.0000


A(:,:,6) =

    1.0000         0         0         0
         0    1.0000         0         0
         0         0    1.0000    0.0800
         0         0         0    1.0000


T(:,:,1) =

    1.0000         0         0    0.0750
         0    0.0000   -1.0000         0
         0    1.0000    0.0000    0.3300
         0         0         0    1.0000


T(:,:,2) =

    1.0000         0         0    0.3750
         0    0.0000   -1.0000         0
         0    1.0000    0.0000    0.3300
         0         0         0    1.0000


T(:,:,3) =
```

```
    1.0000         0         0    0.4500
         0   -1.0000   -0.0000         0
         0    0.0000   -1.0000    0.3300
         0         0         0    1.0000


T(:,:,4) =

    1.0000         0         0    0.4500
         0    0.0000   -1.0000   -0.0000
         0    1.0000    0.0000    0.0100
         0         0         0    1.0000


T(:,:,5) =

    1.0000         0         0    0.4500
         0   -1.0000   -0.0000   -0.0000
         0    0.0000   -1.0000    0.0100
         0         0         0    1.0000


T(:,:,6) =

    1.0000         0         0    0.4500
         0   -1.0000   -0.0000   -0.0000
         0    0.0000   -1.0000   -0.0700
         0         0         0    1.0000


A(:,:,1) =

    1.0000         0         0    0.0750
         0    0.0000   -1.0000         0
         0    1.0000    0.0000    0.3300
         0         0         0    1.0000


A(:,:,2) =

    0.2588   -0.9659         0    0.0776
    0.9659    0.2588         0    0.2898
         0         0    1.0000         0
         0         0         0    1.0000


A(:,:,3) =

    0.8660   -0.0000    0.5000    0.0650
    0.5000    0.0000   -0.8660    0.0375
         0    1.0000    0.0000         0
         0         0         0    1.0000
```

```
A(:,:,4) =

   -0.7071   -0.0000   -0.7071         0
    0.7071   -0.0000   -0.7071         0
         0   -1.0000    0.0000    0.3200
         0         0         0    1.0000


A(:,:,5) =

    0.7071    0.0000   -0.7071         0
   -0.7071    0.0000   -0.7071         0
         0    1.0000    0.0000         0
         0         0         0    1.0000


A(:,:,6) =

    0.5000   -0.8660         0         0
    0.8660    0.5000         0         0
         0         0    1.0000    0.0800
         0         0         0    1.0000


T(:,:,1) =

    1.0000         0         0    0.0750
         0    0.0000   -1.0000         0
         0    1.0000    0.0000    0.3300
         0         0         0    1.0000


T(:,:,2) =

    0.2588   -0.9659         0    0.1526
    0.0000    0.0000   -1.0000    0.0000
    0.9659    0.2588    0.0000    0.6198
         0         0         0    1.0000


T(:,:,3) =

   -0.2588   -0.0000    0.9659    0.1332
    0.0000   -1.0000   -0.0000    0.0000
    0.9659    0.0000    0.2588    0.6922
         0         0         0    1.0000


T(:,:,4) =

    0.1830   -0.9659    0.1830    0.4423
   -0.7071    0.0000    0.7071    0.0000
   -0.6830   -0.2588   -0.6830    0.7750
```

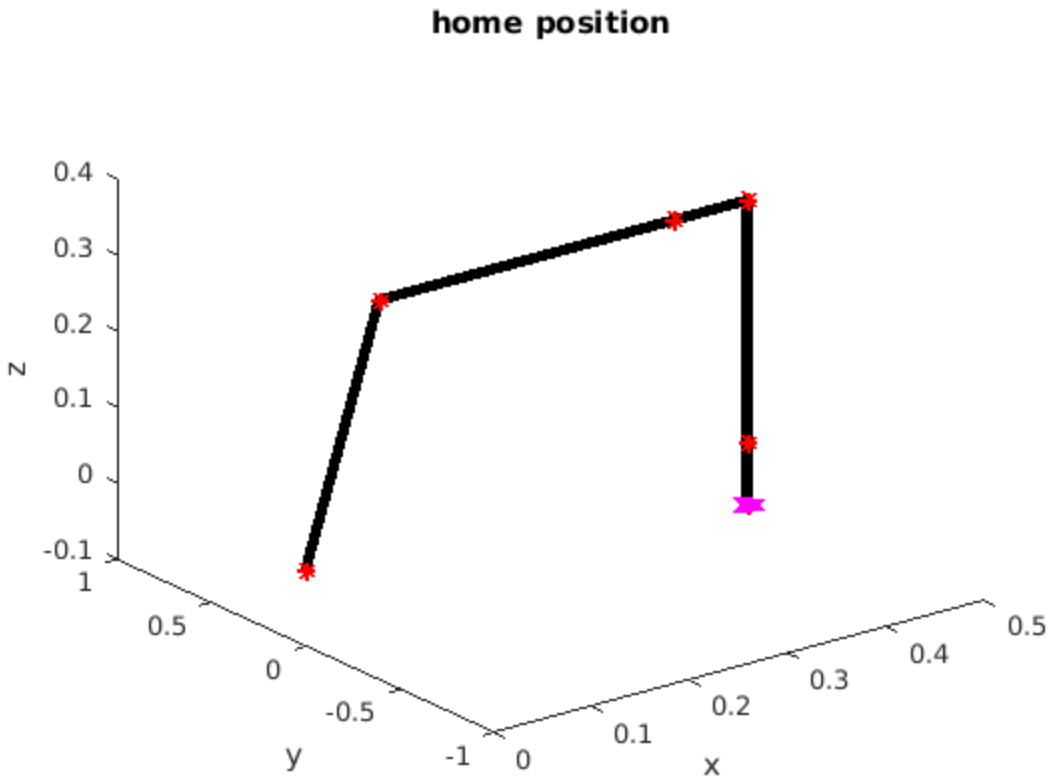
```
         0         0         0    1.0000
```

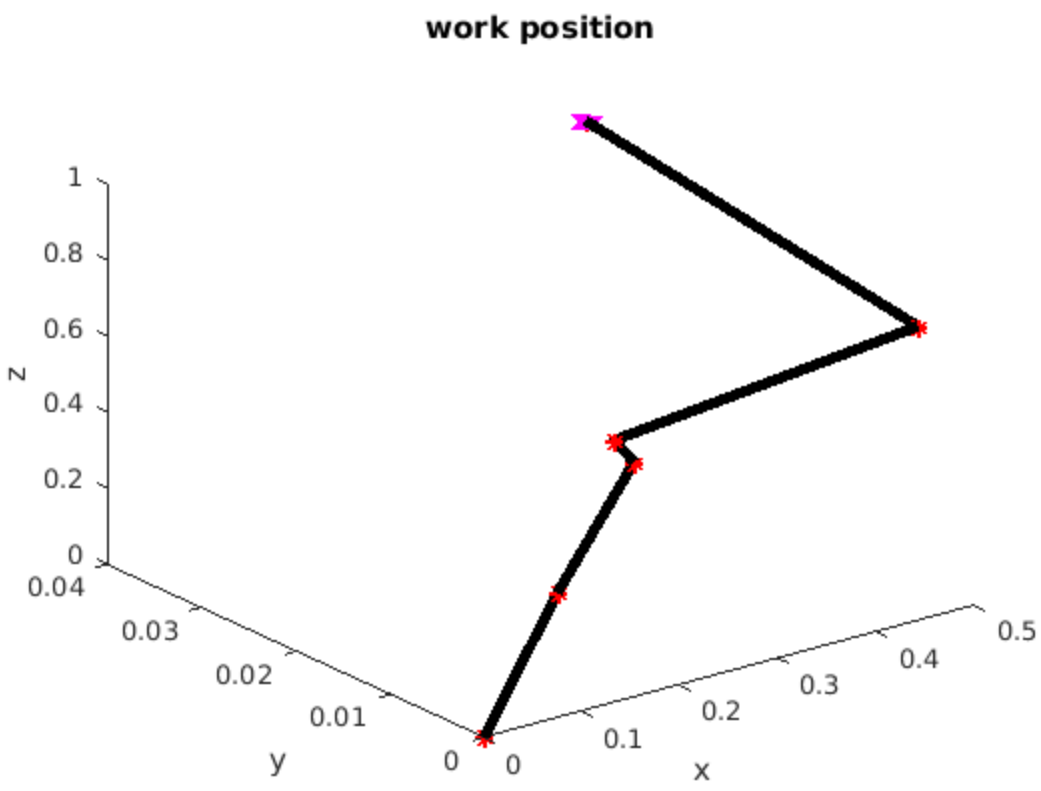
```
T(:,:,5) =

    0.8124    0.1830    0.5536    0.4423
   -0.5000    0.7071    0.5000    0.0000
   -0.3000   -0.6830    0.6660    0.7750
         0         0         0    1.0000
```

```
T(:,:,6) =

    0.5647   -0.6121    0.5536    0.4866
    0.3624    0.7866    0.5000    0.0400
   -0.7415   -0.0817    0.6660    0.8283
         0         0         0    1.0000
```





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