get mechanism plot results

```
T= readtable("FourBarAngles.csv");
all_theta2=T.theta2;
all_theta3=T.theta3;
n=size(all_theta3,1);
```

input hardcode

```
syms theta2 theta3
l2 = 1
```

```
l2 = 1
```

```
angleBAP=31
```

```
angleBAP = 31
```

```
ap=3.06
```

```
ap = 3.0600
```

```
theta_transformation=26.5
```

```
theta_transformation = 26.5000
```

calculating wrt frame of the mechanism

```
% vectors are in exponential form
o2a = l2*(exp(1i*deg2rad(theta2)));
o2p = o2a + ap*(exp(1i*(theta3-deg2rad(angleBAP))));
```

tranforming the system

```
transform=[
    cosd(theta_transformation), sind(theta_transformation);
    -sind(theta_transformation), cosd(theta_transformation)
];
in_other_coord=transform*[real(o2p); imag(o2p)];
```

Calculating for each set of values of t2 and t3:

```
all_o2p_x=zeros(n,1);
all_o2p_y=zeros(n,1);

all_other_coord_x=zeros(n,1);
all_other_coord_y=zeros(n,1);
for idx = (1:n)
    thisO2P = subs(o2p, [theta2, theta3], [all_theta2(idx), all_theta3(idx)]);
    all_o2p_x(idx) = real(thisO2P);
    all_o2p_y(idx) = imag(thisO2P);

    complex_num = subs(in_other_coord, [theta2, theta3], [all_theta2(idx), all_theta3(idx)]);
    all_other_coord_x(idx) = complex_num(1);
    all_other_coord_y(idx) = complex_num(2);
```

```
end
```

Store evaluated data

```
T.X_O2P=all_o2p_x;
T.Y_O2P=all_o2p_y;
T.X_Odash2P=all_other_coord_x;
T.Y_Odash2P=all_other_coord_y;
writetable(T,'FourBarAngles.csv','Delimiter',',','QuoteStrings',true);
```