Contents

HW 7 #4

```
clear; clc;
```

Given

```
r1x = 7.5;
r1y = 5;
r1 = sqrt(r1x^2 + r1y^2);
r2 = 2;
r3 = 6;
r4 = 6;
r5 = 6;

theta1 = rad2deg(atan(r1y/r1x));
theta2 = 45;
%theta1 = 0;
omega2 = rad2deg(1000*2*pi/60);
alpha2 = 0;
```

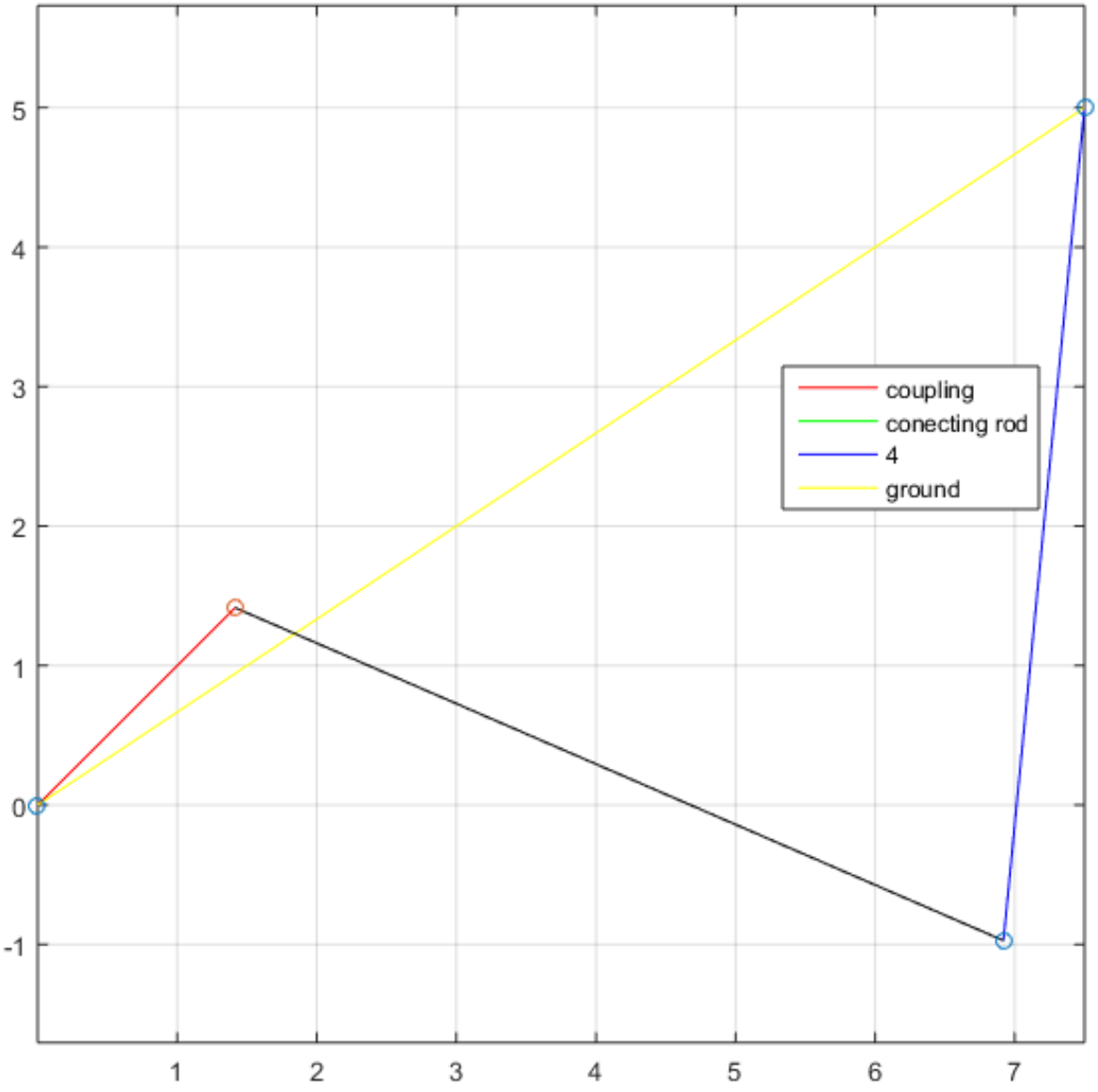
Calculations

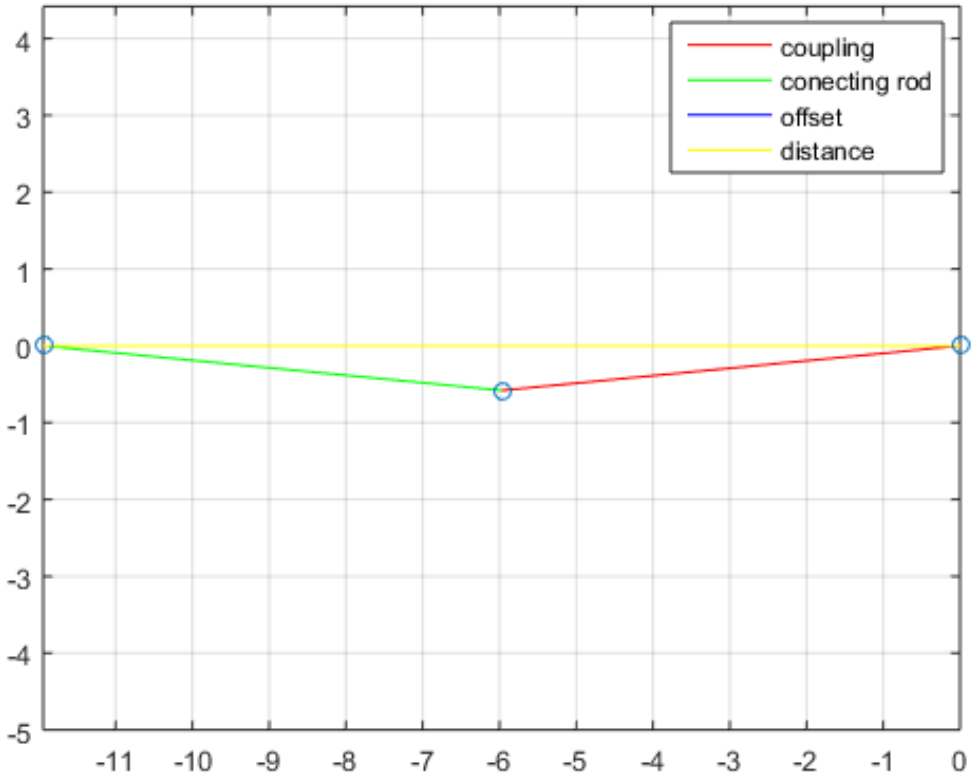
```
[angles, angularVelocity, angularAcceleration, lengths, linearVelocity, linearAcceleration, points,
p, vp, ap]...
    = four_bar_func([theta1, theta2, 0, 0], omega2, alpha2, [r1, r2, r3, r4], [0, 0], [1 0 -1]);


[anglesSlide, angularRatesSlide, alpha3Slide, lengthsSlide, linearRatesSlide, d_ddot, pointsSlide, p
Slide]...
    = four_bar_slider([0, abs(angles(4)-90), 150, 90], angularVelocity(4), angularAcceleration(4), [
10, r4, r5, .0], [0, 0], [1 0]);

Aa = linearAcceleration(2,:);
Ab = linearAcceleration(3,:);
Ac = abs(d_ddot);

disp(['Aa = ' num2str(Aa) ' cm/sec^2 in the X and Y directions']);
disp(['Ab = ' num2str(Ab) ' cm/sec^2 in the X and Y directions']);
disp(['Ac = ' num2str(Ac) ' cm/sec^2 in the Y direction']);
```

```
Equation solved.

fsolve completed because the vector of function values is near zero
as measured by the default value of the function tolerance, and
```

the problem appears regular as measured by the gradient.

```
Aa = -50911688.2454     -50911688.2454 cm/sec^2 in the X and Y directions
Ab = -53433578.3657      59077234.7997 cm/sec^2 in the X and Y directions
Ac = 20365986.1868 cm/sec^2 in the Y direction
```





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