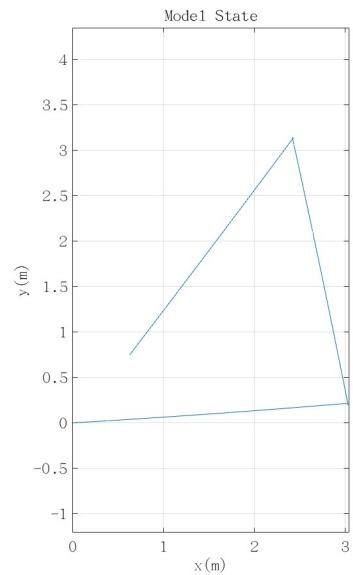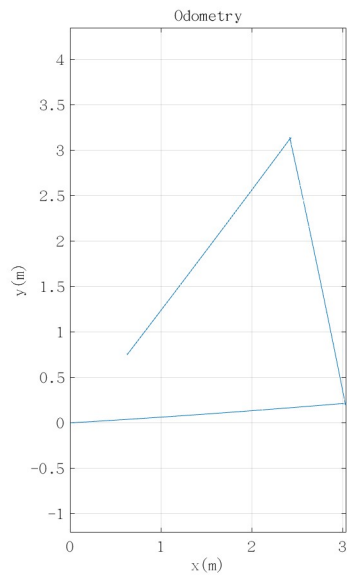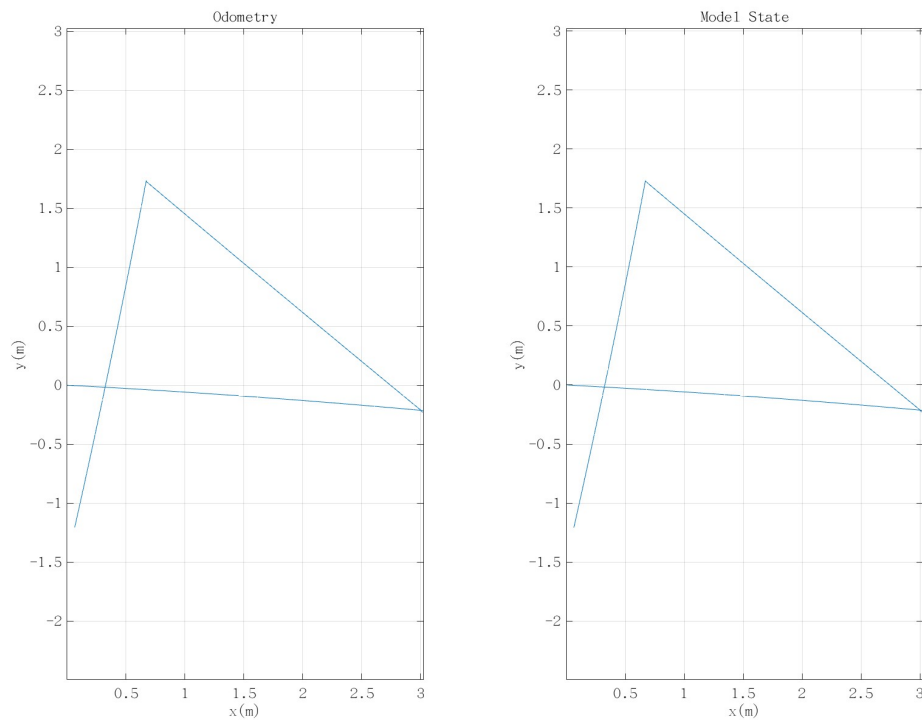# HW2

Author: Chenghao Lin, Naian Tao

1

1.

2. Explanation of algorithm

```
VelStraight = 0.2;
StraightTime = 3/VelStraight;
RotTurn = pi/10;
RotTime = (120*pi/180)/RotTurn;
for i=1:3
    Public forward speed for "StraightTime" seconds;
    Public rotation speed for "RotTime" seconds;
end
```

2

1.

2. Explanation of algorithm

```
for i=1:3 % Three stages
    distanceOdom = 0; % the Distance from the Current Position to the Initial
Position of the Stage
    renew InitOdomPos; % Starting Position for Each Stage
    while (distanceOdom < 3)
        Public forward speed;
        renew distanceOdom; %Calculate the Distance from the Current Position
to the Initial Position of the Stage
    end
    if i==1
        Odomyaw=0; % Robot's Orientation
        while (Odomyaw < 2*pi/3)
            Public rotation speed;
            renew Odomyaw;
        end
    elseif i==2
        while ((Odomyaw >pi/2 && ...
                Odomyaw<pi) || Odomyaw <-2*pi/3)
            Public rotation speed;
            renew Odomyaw;
        end
    end
end
```