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```
function [gik, posTgt, jointConst, robot, joint_limits,
 prohib]=setupIK()
```

Import robot

```
robot = importrobot('jurp1.urdf');
robot.DataFormat = 'struct';
```

Define IK

```
gik = generalizedInverseKinematics();
gik.SolverAlgorithm = 'LevenbergMarquardt';
gik.RigidBodyTree = robot;
gik.ConstraintInputs = {'position','joint'};

posTgt = constraintPositionTarget('Hand_Link');
%posTgt.PositionTolerance = 0.005;
%posTgt.Weights = 1;

% aimTgt = constraintAiming('Hnad_Link');
% aimTgt.TargetPoint = [0,100,0];



jointConst = constraintJointBounds(robot);
joint_limits = [-pi/2.25 0.7;-0.8 0.8;-2.35 0];
jointConst.Bounds = joint_limits;
%jointConst.Weights = [0.1 1 0.1];
```

Define prohibited area

```
        %Triangle (check --> https://se.mathworks.com/matlabcentral/
answers/308729-how-to-plot-a-triangular-prism)
        prohib.A = [0.2362 0 0.5];
        prohib.B = [0.2362 0 1.3];
        prohib. E = [-0.2638 0.75 0.5];
        prohib.F = [-0.2638 0.75 1.3];
        prohib.D = [0.7362 0.75 0.5];
        prohib.C = [0.7362 0.75 1.3];

end
```

```
ans =

  generalizedInverseKinematics with properties:

      NumConstraints: 2
    ConstraintInputs: {'position'  'joint'}
       RigidBodyTree: [1×1 rigidBodyTree]
     SolverAlgorithm: 'LevenbergMarquardt'
    SolverParameters: [1×1 struct]
```

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