1 of 1

```
% get the coordinates for the surface of a sphere
[X, Y, Z] = sphere;
% set the radius of each sphere
r1 = 1;
r2 = .5;
% define the direction of motion for each sphere
d1 = -1:
d2 = 0;
% avoid multi-collision
has_collided = 0;
for xs = -5 : .1 : 5
    % clear and hold the figure window
    clf;
    hold on;
    % define sphere positions
    s1x = r1*(X + d1*xs);
    s1y = r1*Y;
    s1z = r1*Z;
    s2x = r2*(X + d2*xs);
    s2y = r2*Y;
    s2z = r2*Z;
   % use surface plots to plot both spheres
    surf(s1x, s1y, s1z, FaceColor=[0, 0, 1], EdgeColor='none')
    surf(s2x, s2y, s2z, FaceColor=[1, 0, 1], EdgeColor='none')
    % check for sphere contact
    % first calculate distance
    dist = sqrt(xs.^2);
    % compare distance to radius
    if dist < (r1 + r2) && (has collided == 0)
        % change motion direction of each sphere
        d2 = -1;
        d1 = 1;
        % store collision
        has_collided = 1;
    end
    % disable holding
    hold off;
    % stuff that controls the axes and view angle of the plot
    axis([-5, 5, -5, 5, -5, 5]);
    axis square;
    view([-20 20]);
    % update the image
    drawnow;
end
```