```
load('finalmat.mat')
% load('positionmatrix.mat','walls')
x=finalmat(10000,1);y=finalmat(10000,2);
pts=linspace(100,700,400)
```

```
pts = 1×400
   100.0000   101.5038   103.0075   104.5113   106.0150   107.5188   109.0226   110.5263 ⋯
```

```
points=[x,y];
N=histcounts2(y(:),x(:),pts,pts);
% heatmap(points)
% Plot scattered data (for comparison):
% subplot(1, 2, 1);
% scatter(x, y, 'r.');
% axis equal;
% set(gca, 'XLim', pts([1 end]), 'YLim', pts([1 end]));

% Plot heatmap:
% subplot(1, 2, 2);
% imagesc(pts, pts, N);
% axis equal;
% set(gca, 'XLim', pts([1 end]), 'YLim', pts([1 end]), 'YDir', 'normal');
% plot(0,0)
% hold on
% line(walls(r,[3,4]),walls(r,[1,2]))
```

```
% hold off

load('finalmat')
NoOfBins = 1000; %or whatever you want
X=finalmat(1:100000,1);Y=finalmat(1:100000,2);
[gridprob, xedges, yedges] = histcounts2(X, Y, NoOfBins, 'Normalization', 'probability'
% surf(mean(xedges([1:end-1;2:end])), mean(yedges([1:end-1;2:end])), gridprob)
% contourf(X,Y,gridprob)
h = histogram2(X,Y, 'NumBins', 200);
% contour(X,Y,h)
shading interp
```
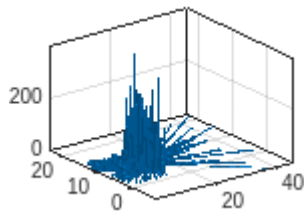


```
% shading("interp")
%or use
```

```matlab
%histogram2(X, Y, NoOfBins, 'Normalization', 'probability')
```

```matlab
clear all

load('finalmat.mat')
% D1 = load('X.mat');
% D2 = load('Y.mat');
% X = D1.X;
% Y = D2.Y;
n=1000
```

n = 1000

```matlab
hh3=zeros([60,60]);
for i=1:n
data = [finalmat(100*i+(1:100),1),finalmat(100*i+(1:100),2)];
hh3 = hh3+hist3(data, 'Nbins',[1 1]*60);
end
figure
image(flipud(hh3))
ax = gca;
xt = ax.XTick;
yt = ax.YTick;
ax.XTickLabel = xt*10;
set(ax, 'YTick',[0 yt], 'YTickLabel', [flip([0 yt])]*10)
```