Contents

```
% Andrew Gerst - Assignment 3 Bonus

clear all; close all;
```

Display Image

```
img = imread('clark.jpg');
figure
image(img);
axis off
axis image
```


User Click 10 Points

```
[x,y] = ginput(10);
```

Draw 10 Points (No Lines) On Image

```
hold on
plot(x,y,'y.');
one = ones(size(x));
zero = zeros(size(x));
```


Draw Plotted Circle (Cyan)

```
% Circle: (x^2 + y^2) + Dx + Fy + G = 0
% draw_ellipse(1,0,1,d,f,g,'c');

circle = [one y x y.^2+x.^2];
est = circle\y;
draw_ellipse(1,0,1,est(1),est(2),est(3),'c');
```

Draw Oval (Red)

```
% Oval: x^2 + Cy^2 + Dx + Fy + G = 0
% draw_ellipse(1,0,c,d,f,g,'c');
```

Draw Ellipse (Magenta)

```
% Ellipse: x^2 + Bxy + Cy^2 + Dx + Fy + G = 0
% draw_ellipse(1,B,C,D,F,G,eColor);
```

Squared Residual For Each Shape

```
% plug x and y into each of the three shape equations
% sum squares of the results
```