Exercise. (Matlab visualization of a circle event)
Given points: p1(0,0), p2(sqrt(3)+2,1), p3(1,- sqrt(3))
Sweep line: y=a=-2

For the given data, the equation of the circle is:(x-2)^2+y^2=4

The equation for a general parabola Beta_i involved in the Fortune algorithm: y=(a+yi)/2+(x-xi)^2/(2*(yi-a))

In our case we have:

```
% Beta1: y=-1+x^2/4
% Beta2: y=-1/2+(x-2-sqrt(3))^2/6
% Beta3: y=(-sqrt(3)-2)/2+(x-1)^2/(2*(2-sqrt(3)))
```

Let us find the intersection points:

```
%                    -> Beta1 & Beta2 => x2=2 si x1=-16.92
```

Use for example:

```
%solve('x^2/4-1/2-(x-2-sqrt(3))^2/6=0')

                     -> Beta2 & Beta3 => x2=2 and x3=-0.53

                     -> Beta1 & Beta3 => x2=2 and x4=0.3
```

And now the Matlab program:

```
hold on
x=2:0.1:4;
x2=2+sqrt(3);
y2=1
yy=(a+y2)/2+((x-x2).^2)/(2*(y2-a));
plot(x,yy,'g')
hold on
x=0.3:0.1:2;
x3=1;
y3=-sqrt(3)
yyy=(a+y3)/2+((x-x3).^2)/(2*(y3-a));
plot(x,yyy,'m')
%xlim([-18,3])
```

```
t=0:pi/10:2*pi;
x_c=2+2*cos(t);
y_c=2*sin(t);
plot(x_c,y_c,'y')
hold on
plot([-2 4],[-2 -2])
plot(x1,y1,'*')

plot(x2,y2,'*')
plot(x3,y3,'*')
plot(2,0,'og')
```