

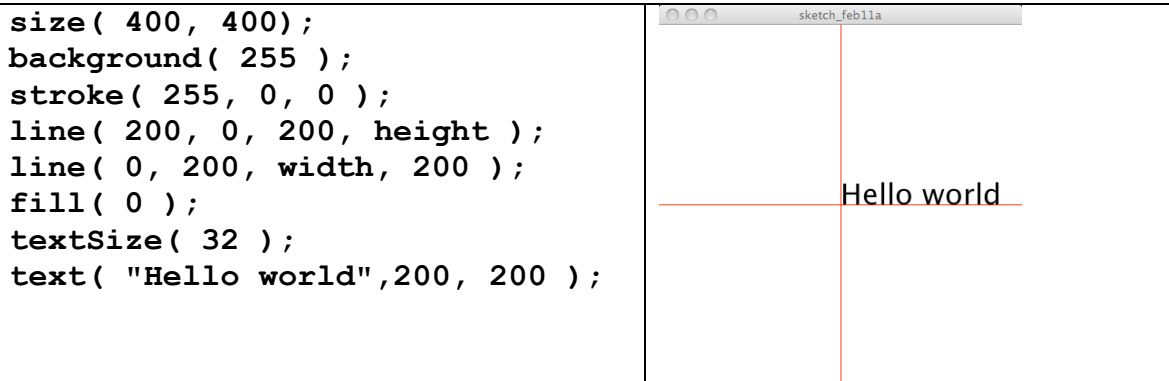
Modes

Processing allows you to determine the anchor points (x, y) of some figures and text. For the figures, you can set the **mode**. For text, you can set the **align** variable. Here is a brief rundown:

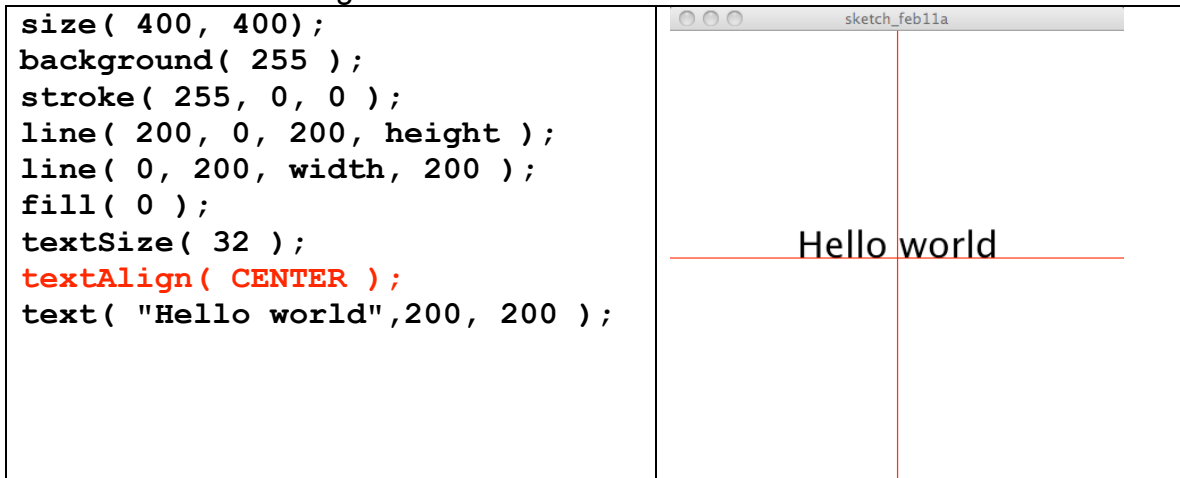
In the following examples the lines cross at the (x, y) anchor points of the text and figures.

First -- Text

The default position of the (x, y) coordinate or anchor point of text is the lower left corner of the first character of the text.

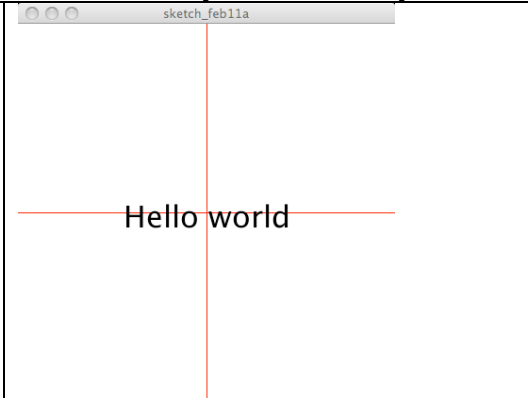


There is an API function, **textAlign()** that has several signatures. One allows for the horizontal centering of the text.



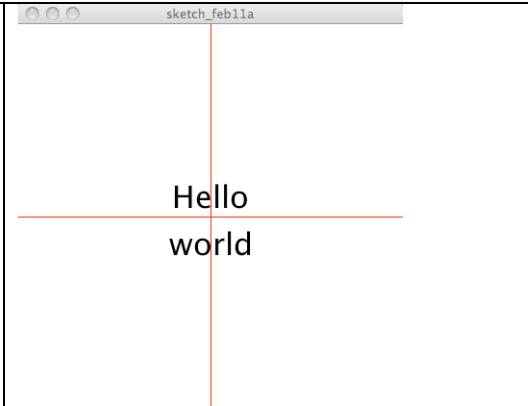
Another signature allows the text to be centered horizontally and vertically:

```
size( 400, 400);  
background( 255 );  
stroke( 255, 0, 0 );  
line( 200, 0, 200, height );  
line( 0, 200, width, 200 );  
fill( 0 );  
textSize( 32 );  
textAlign( CENTER );  
text( "Hello world", 200, 200 );
```



The escape sequence that prints new lines or returns [`\n`] can be put into the String and the alignment will be maintained. Here the [`\n`] is placed between the two words

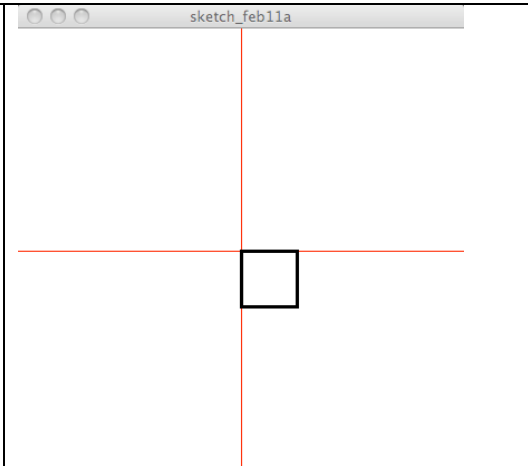
```
size( 400, 400);  
background( 255 );  
stroke( 255, 0, 0 );  
line( 200, 0, 200, height );  
line( 0, 200, width, 200 );  
fill( 0 );  
textSize( 32 );  
textAlign( CENTER );  
text( "Hello\nworld", 200, 200 );
```



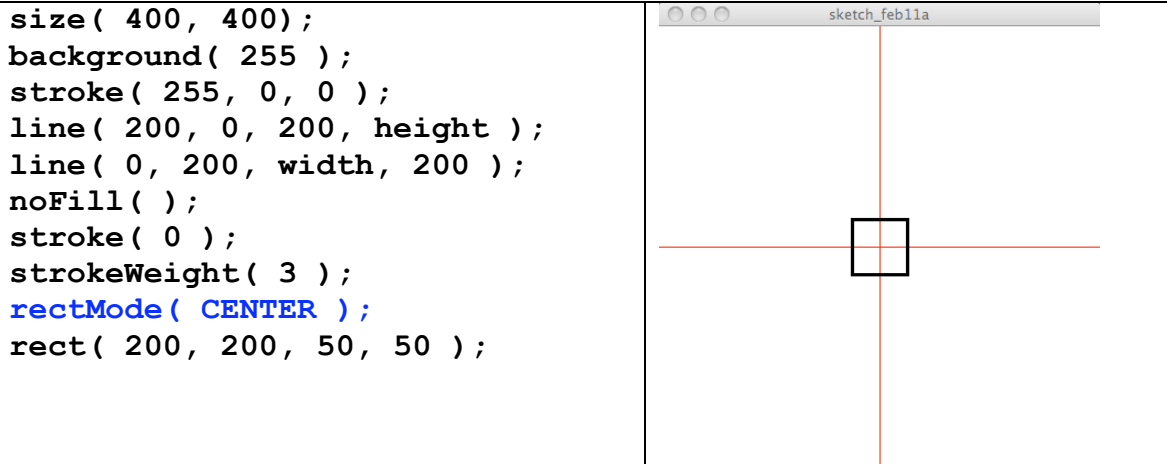
Next – rects and images

The default position of the (x, y) coordinate or anchor point of rects and images is the upper left corner.

```
size( 400, 400);  
background( 255 );  
stroke( 255, 0, 0 );  
line( 200, 0, 200, height );  
line( 0, 200, width, 200 );  
noFill( );  
stroke( 0 );  
strokeWeight( 3 );  
rect( 200, 200, 50, 50 );
```



The function `rectMode()` can be used to change the (x, y) anchor point. One setting allows the anchor points to be the center of the rect.



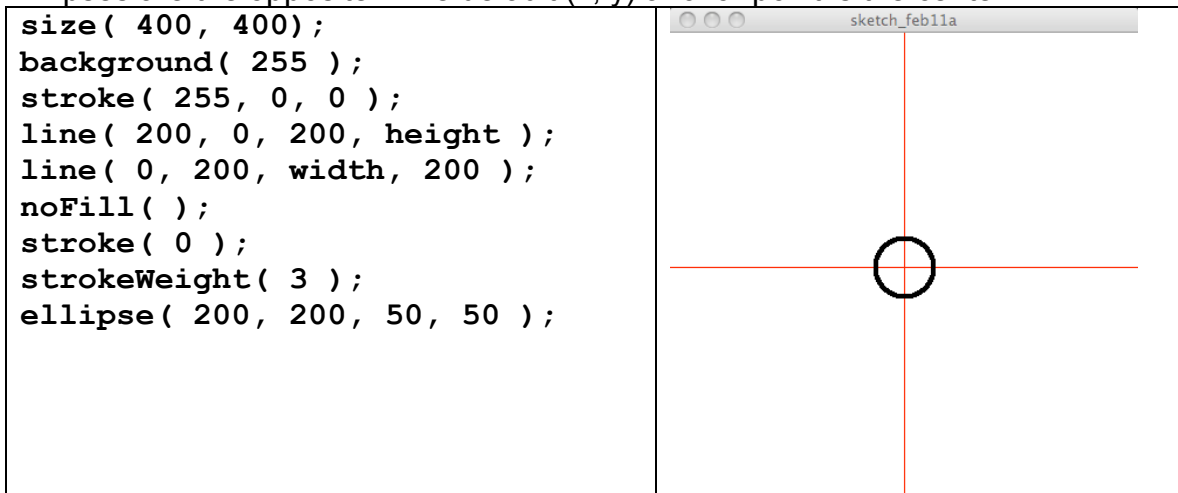
You need to remember that every figure drawn after any mode is set will be drawn according to the rules for this mode. This changed setting remains in effect for all following frames until it is changed to something different.

There are other mode settings for rects. Read the API to see if any of these might be useful.

There is a corresponding `imageMode()` function: Read the API to see if this could be helpful to your coding.

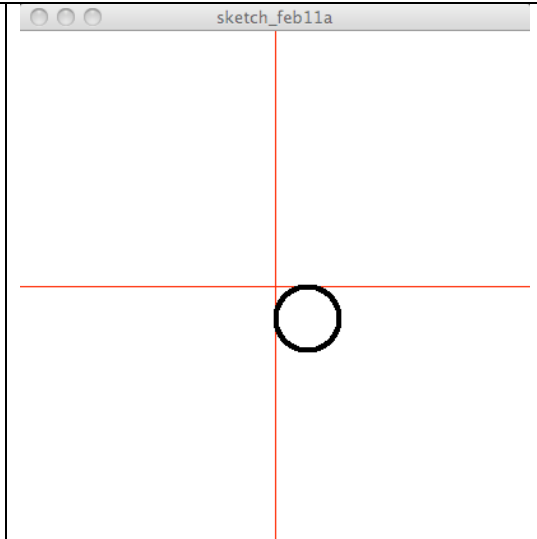
Finally – ellipses

Ellipses are the opposite. The default (x, y) anchor point is the center:



The `ellipseMode()` function can alter the anchor point. This code sets the anchor point to the upper left corner of the virtual rectangle that contains the ellipse:

```
size( 400, 400 );  
background( 255 );  
stroke( 255, 0, 0 );  
line( 200, 0, 200, height );  
line( 0, 200, width, 200 );  
noFill( );  
stroke( 0 );  
strokeWeight( 3 );  
ellipseMode( CORNER );  
ellipse( 200, 200, 50, 50 )
```



Check the API for more information on this mode and the others.