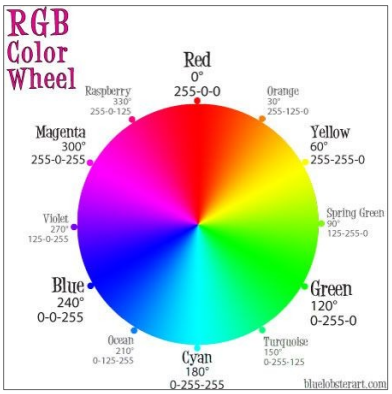
Basic Processing

```
size(width,height);            // open window with specified dimensions
```

- "other aspects" - set modes that affect subsequent drawing commands
  - set line-drawing color




```
stroke(gray);          // grayscale; value is 0-255
stroke(r,g,b);         // RGB color; values are 0-255
stroke(r,g,b,a);       // RGB color with transparency (a);
                       //  values are 0-255
```

  - set fill color

```
fill(gray);            // grayscale; value is 0-255
fill(r,g,b);           // RGB color; values are 0-255
fill(r,g,b,a);         // RGB color with transparency (a);
                       //  values are 0-255
noFill();              // do not fill area
```

  - shape modes

```
rectMode(CORNER);           // interpret values as left,top,width,height
ellipseMode(CORNER);        // interpret values as left,top,width,height

rectMode(CENTER);     // interpret values as centerx,centery,width,height
ellipseMode(CENTER); // interpret values as centerx,centery,width,height
```

- drawing commands – draw something on the screen
  - clear the background to the specified color

```
background(gray);              // grayscale; value is 0-255
background(r,g,b);             // RGB color; values are 0-255
background(r,g,b,a);           // RGB color with transparency (a);
                               // values are 0-255
```

  - draw shapes

```
line(x1,y1,x2,y2);             // draw a line from (x1,y1) to (x2,y2)
point(x,y);                    // draw a point at (x,y)
rect(x,y,w,h);                 // draw rectangle (*)
ellipse(x,y,w,h);              // draw ellipse (*)
```

(*) The meaning of (x,y) depends on the mode (CENTER or CORNER).

At the End of Class

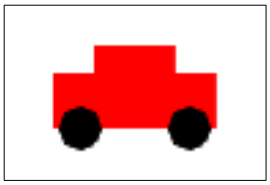
Hand in whatever you have done during class, even if a sketch is incomplete.

- Make sure each sketch is named as directed and has a comment with the names of your group. Also be sure to save your sketches! (This should be in your sketchbook **~/cs120/sketchbook**)
- Copy the entire directory for each sketch (not only the `.pde` file) into your handin directory (**/classes/cs120/handin/*username***). You only need to hand in one copy for the group.

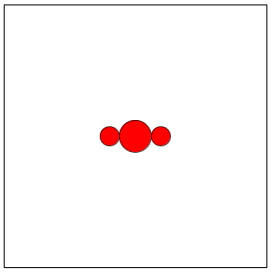
Exercises

Use the strategy discussed in class to work out the size and position of all shapes being drawn – identify what you need to know, label what you do know, and compute what you need from what you know. Write on the picture! (or draw your own copy on another page)

1. Create a sketch named **sketch_250908a** which replicates the picture shown as accurately as you can. Make the drawing window 600x400.

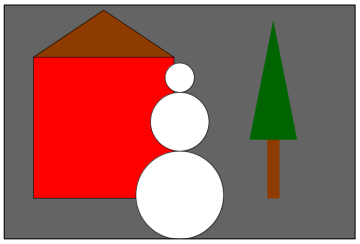


2. Create a sketch named **sketch_250908b** which replicates the picture shown as accurately as you can. Make the drawing window 400x400.



3. Create a sketch named **sketch_250908c** which replicates the picture shown as accurately as you can. Make the drawing window 600x400.

   To find out how to draw triangles, refer to the Processing API: https://processing.org/reference/ – look for `triangle()` in the Shape section.



4. Dutch painter Piet Mondrian (1872-1944) is well-known for the style of artwork shown below. Create a sketch which replicates the picture as accurately as you can. (Use Tools→Color Selector… to try to match the colors.) Make the drawing window 1000x600. Save your sketch with the name **sketch_250902d**.

   Hint: as the scene becomes more complicated, it becomes more important to practice *iterative development* – test your program after every shape or every few shapes added to make sure the result is what you want.