Drawing Function Syntax Recap

- function declaration

  ```
  // comment describing the function's purpose and its
  //  parameters
  void funcName ( type paramName1, type paramName2, … ) {
    function body
  }
  ```

- function call

  ```
  funcName(value1,value2,...);
  ```

Filling in the Drawing Function Syntax

- drawing function definition

  - What is being drawn? → function name (and comment)

  - What differs from one copy to the next? → function parameters

  - How is it drawn? → function body

- parameter definition – for each parameter

  - What is it for? → parameter name (and comment)

  - What kinds of value is it? → parameter type

- drawing function calls

  - What are the specific values for the "what differs?" things? → arguments for the function call(s)

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

For all sketches, be sure to **include a comment with the names of your group at the beginning of the sketch.**

1. Create a sketch called **sketch_251001a** which draws the picture shown – three of the snowmen should be in fixed positions as shown, and the rightmost snowman should follow the mouse with the mouse pointer in the center of the bottom circle.
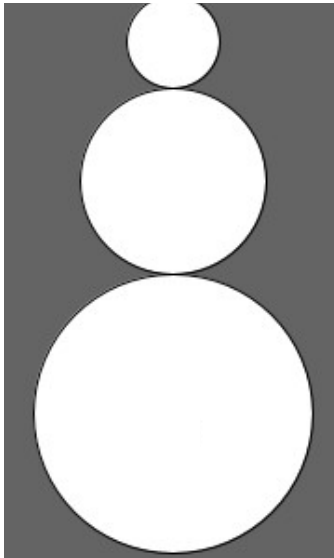
   You should have a drawing function for a snowman. Refer back to #2 from Monday's in-class exercises for your answers to the drawing function questions.
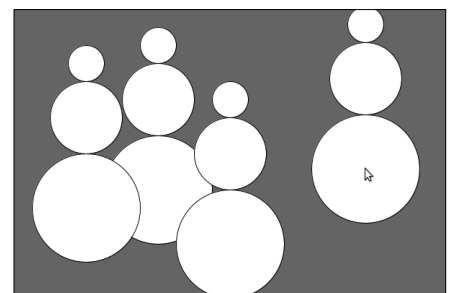
2. Consider the variation of the snowman sketch shown. The rightmost snowman should still follow the mouse. Note that the proportions are the same for each snowman – the middle circle is 2/3 the size of the bottom circle and the top circle is 1/3 the size of the bottom.

    Fill in the table below for a snowman drawing function.
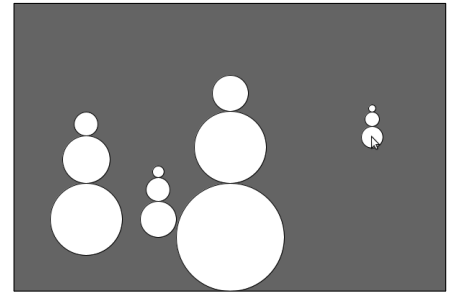
| what differs from one copy to the next?	how is it drawn?	what are the specific values for the "what differs" things?

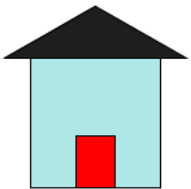3. Save a copy of your sketch from #1 as **sketch_251001b**, then modify the copy to produce the picture shown in #2. Use your answers for #2 to modify the definition and use of the snowman drawing function from #1.
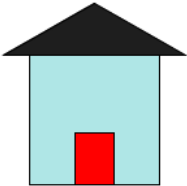
If You Have Time

- Create a sketch called **sketch_251001c** which draws the picture shown. The sun (in the upper right corner) should follow the mouse, with the mouse pointer in the center of the sun (as shown).

  Create drawing functions as identified as #1 from Monday's in-class exercises. Do any of your functions need parameters for this sketch?
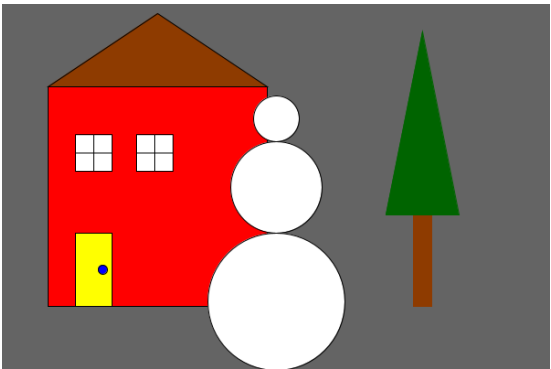
- Consider a sketch which contains several copies of the house shown – the houses should be in different positions in the drawing window and should have doors with different shades of red. Address the drawing function definition questions for a function to draw a house.

what differs from one copy to the next?	how is it drawn?

- Write code for this sketch. Name your sketch **sketch_251001d**.

- If you still have time, expand the sketch – add other kinds of compound things (3+ shapes) to the scene. Include multiple copies of each kind of thing in your scene, and consider different aspects that can be varied. (Include at least one instance where size varies.) Create a drawing function with appropriate parameters for each kind of thing.