

## Practice with Parameters

### Vocabulary:

The variable `scale` is used when `drawTree` is *called*. We say `scale` is an actual parameter (or argument) of `drawTree`.

The values `i*icon.width` and `200` are also actual parameters (or arguments) of `drawTree`.

The variables `s`, `x`, and `y` are formal parameters of `drawTree`. They are declared in the definition of the `drawTree` function.

### Scope:

```

Line 1.      PImage icon;    // storage for image
                                     icon   i   scale   s   x   y
Line 2.      void setup() {
Line 3.          background(255);
Line 4.          size(400, 400);
Line 5.          icon = loadImage("tree.png");
Line 6.          for (int i = 1; i < 4; i++) {
Line 7.              float scale = .5*i;
Line 8.              drawTree(scale, i*icon.width, 200);
Line 9.          }
Line 10.     }

Line 11.     // Draw the tree image scaled by an amount s
Line 12.     // and placed so that its center is at x,y
Line 13.     void drawTree(float s, int x, int y) {
Line 14.         pushMatrix();
Line 15.         translate(x,y);
Line 16.         scale(s,s);
Line 17.         translate(-icon.width/2,-icon.height/2);
Line 18.         image(icon, 0, 0);
Line 19.         popMatrix();
Line 20.     }
```

**Values of variables as the code executes:** Let's look at the values of the variables as we unwind the loop:

<code>i</code> (Lines 7-8)	<code>scale</code> (Lines 7-8)	Arguments of <code>drawTree</code> (Line 8)	<code>s</code> (Line 13)	<code>x</code> (Line 13)	<code>y</code> (Line 13)
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