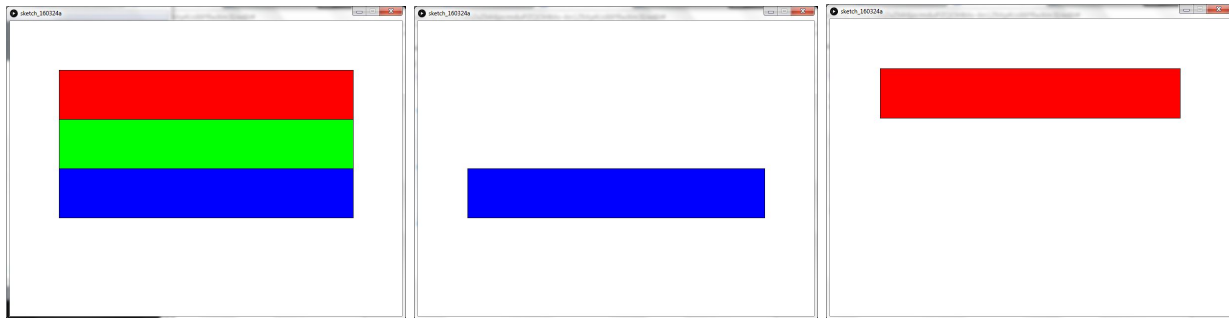


Booleans

A boolean is like a switch. Unlike an int, which can have billions of different values, a boolean can only have two values: true or false.

Like a switch, we can use a boolean to turn things on and off. In this example we're going to turn different shapes on and off on our sketch, as in the example below. Pressing 'r' will turn the red shape on and off, 'b' the blue shape, etc.



REMEMBER: When we have a line in code in our example that starts with `//` that's a comment. Sometimes these are just little bits of information for you. The computer ignores them! If there are instructions in them, YOU have to follow the instructions!

```
boolean red = false;
// add booleans for green and blue here

void setup() {
  size(800, 600);
}

void draw() {
  background(255);
  if (red == true) { // this is the same as writing "if(red) {"
    fill(255,0,0);
    rect(100,100,600,100);
  }
  // add code to draw a green and blue shape as well
}
```

```
void keyReleased() {
  if (key == 'r' || key == 'R') { // this means that we check for 'r' or 'R' - no more caps lock errors
    red = true;
  }
}
```

Tasks

- 1) Add code for green and blue. Pressing 'g' should turn on the green square, 'b' should turn on the blue square.
- 2) We want to be able to turn off the squares too. To do that we need to set the boolean (eg red) to its opposite. If it's true make it false, if it's false make it true. There's a neat way to do that - just set "red = !red". Putting '!' in front of a boolean makes it the opposite.
- 3) Change the position and colour of the boxes to make the Irish flag.

Early Finisher

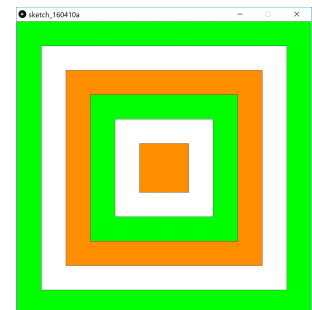
If you're finished early your task is to make the rectangles each be a third of the screen. To do this you should use the special variables **width** and **height**. If you set the size of the screen to (800,600) then width is 800 and height is 600. A third of the width of the screen is then 'width/3', a third of the height is 'height/3'. Use this to make the shapes a third the size of the screen **no matter what size you set the screen to**. This should give you a good start:

```
if (red) {
  fill(255,0,0);
  rect(0,0,width,height/3);
}
```

Next

Produce an image of squares within squares (as shown) using the "width" and "height" variables as above. This should automatically re-size when you change the size of the screen.

Hint: the first orange rectangle is: "`rect(width/6, height/6, 2*(width/3), 2*(height/3))`".



Finally

Finished that too? Once you've shown your work to a teacher you can go to codecademy.com/learn/web and have a go at their HTML lessons (work ahead from the last one you completed if you have worked on these lessons before).