

CSCI 128 Labs Week Three

Lab 3.1

Stage 14, Puzzle 10 Code:

```
var length2;

function draw_hexagon(length2) {
  for (var count = 0; count < 6; count++) {
    moveForward(length2);
    turnLeft(60);
  }
}

draw_hexagon(100);
```

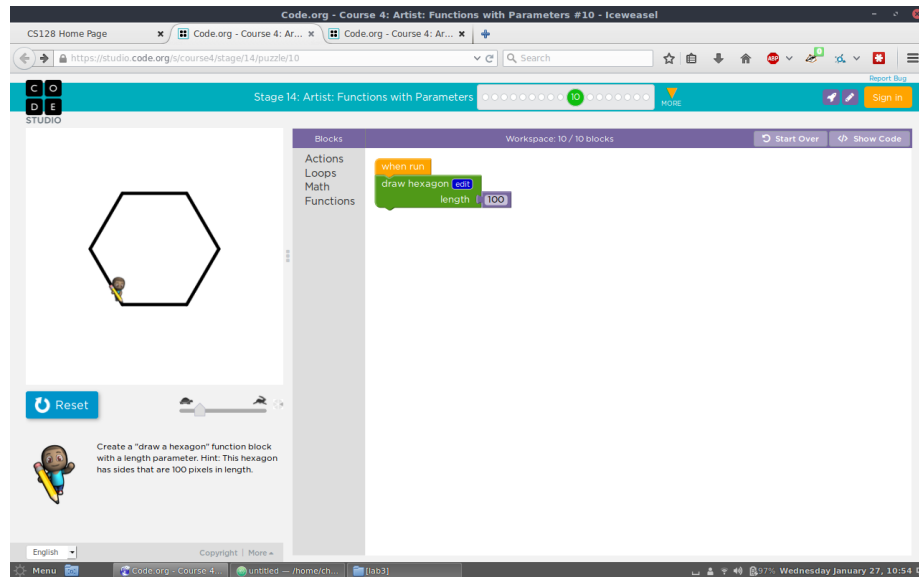


Figure 1: Stage 14, Puzzle 10

Stage 14, Puzzle 11 Code:

```
var sides;  
var length2;
```

```

function draw_a_polygon(sides, length2) {
  for (var count = 0; count < sides; count++) {
    moveForward(length2);
    turnLeft(360 / sides);
  }
}

for (var count2 = 0; count2 < 6; count2++) {
  draw_a_polygon(6, 100);
  turnRight(60);
}

```

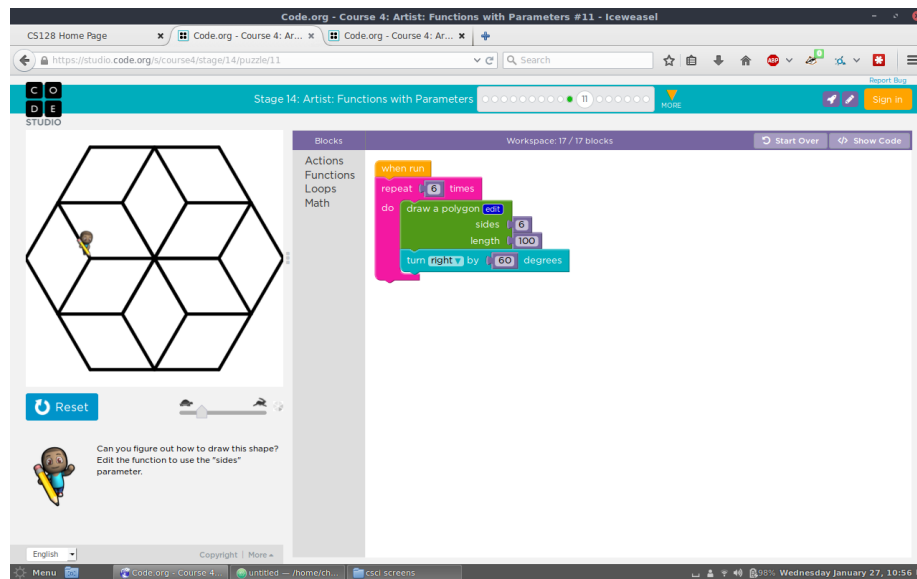


Figure 2: Stage 14, Puzzle 10

Stage 14, Puzzle 15 Code:

```

var length2;
var sides;
var counter;

function draw_a_spiral_edge(length2, sides) {
  moveForward(length2);
  turnLeft(360 / sides);
}

```

```

penWidth(1);
penColour('#228b22');
for (counter = 5; counter <= 100; counter += 5) {
    draw_a_spiral_edge(counter, 4);
}
jumpForward(125);
for (counter = 10; counter <= 100; counter += 10) {
    draw_a_spiral_edge(counter, 3);
}
jumpBackward(100);
turnLeft(180);
for (counter = 2; counter <= 100; counter += 2) {
    draw_a_spiral_edge(counter, 6);
}

```

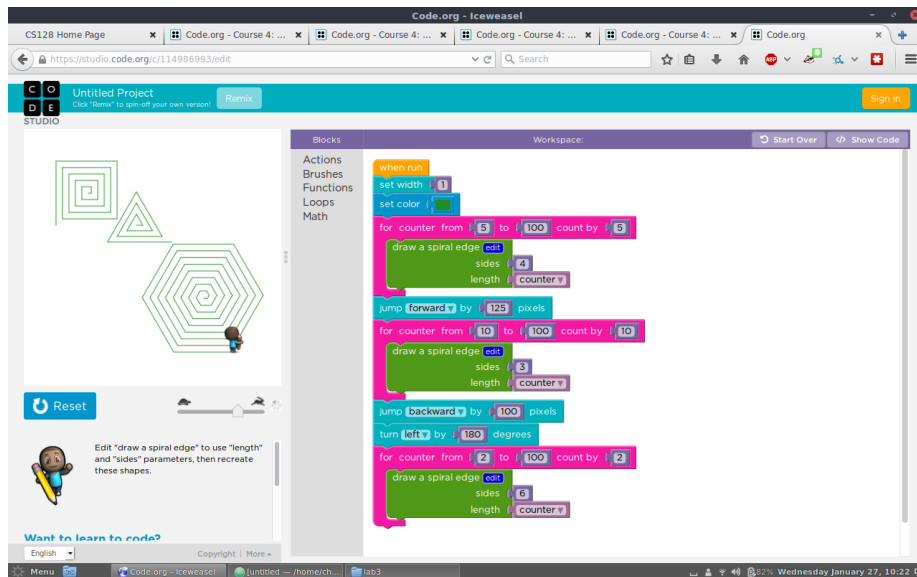


Figure 3: Stage 14, Puzzle 15

Stage 14, Puzzle 16 Code:

```

var length2;
var sides;
var counter;

function draw_a_polygon(length2, sides) {
    for (var count3 = 0; count3 < sides; count3++) {

```

```

        moveForward(length2);
        turnLeft(360 / sides);
    }
}

penWidth(1);
penColour('#0000cd');
for (var count2 = 0; count2 < 6; count2++) {
    for (counter = 3; counter <= 19; counter += 2) {
        for (var count = 0; count < counter; count++) {
            globalAlpha(80 - counter * 3);
            moveForward(25);
            turnLeft(360 / counter);
        }
    }
    moveForward(17);
    turnRight(360 / 6);
}

```

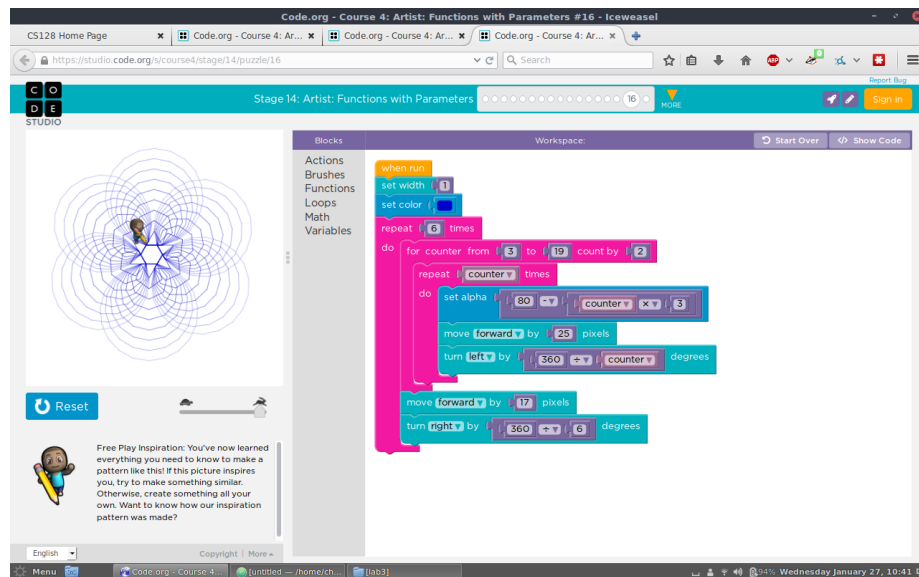


Figure 4: Stage 14, Puzzle 16

Lab 3.2

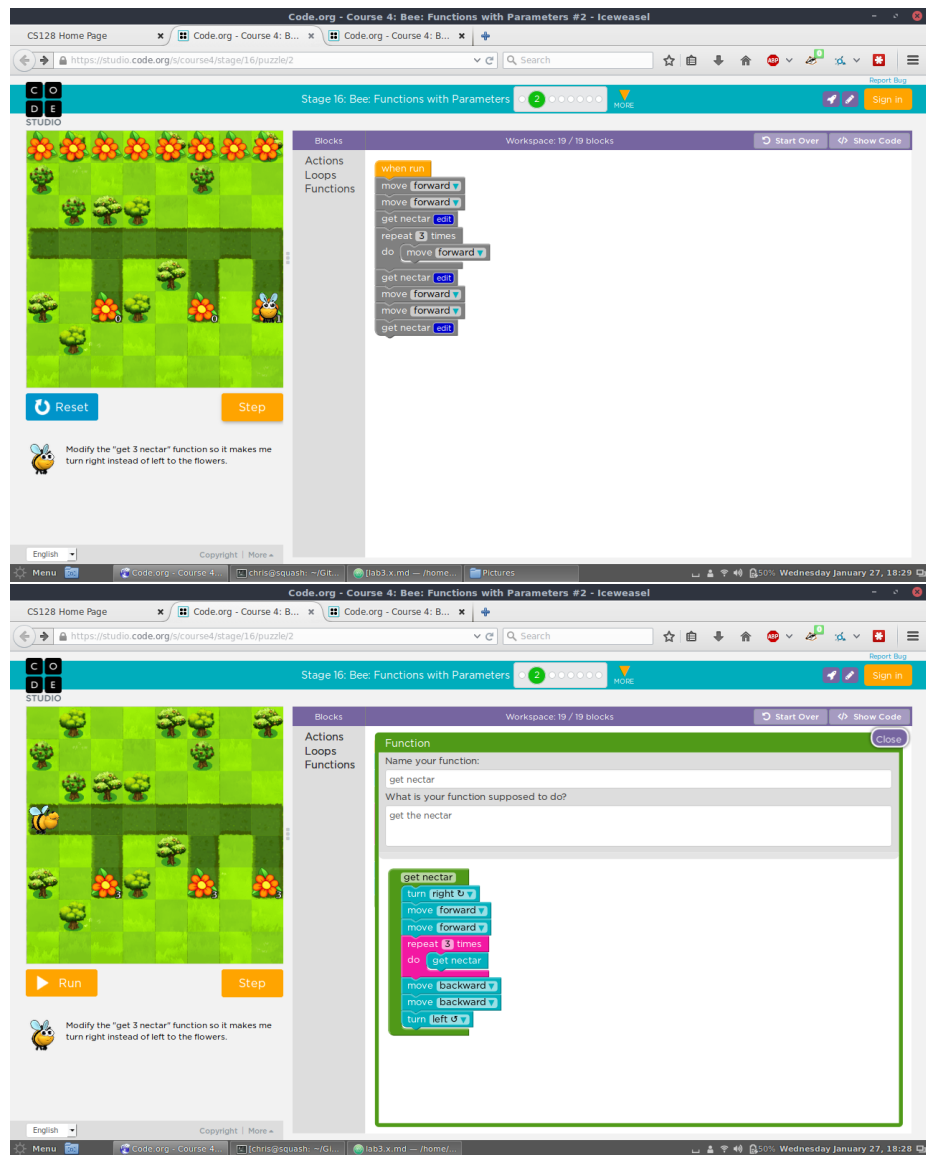
Stage 16, Puzzle 2 Code:

```

function get_nectar() {
    turnRight();
    moveForward();
    moveForward();
    for (var count = 0; count < 3; count++) {
        getNectar();
    }
    moveBackward();
    moveBackward();
    turnLeft();
}

moveForward();
moveForward();
get_nectar();
for (var count2 = 0; count2 < 3; count2++) {
    moveForward();
}
get_nectar();
moveForward();
moveForward();
get_nectar();

```



Stage 16, Puzzle 4 Code:

```
var direction;
var left;
var right;
```

```
function get_3_nectar(direction) {
  if (direction == left) {
```

```

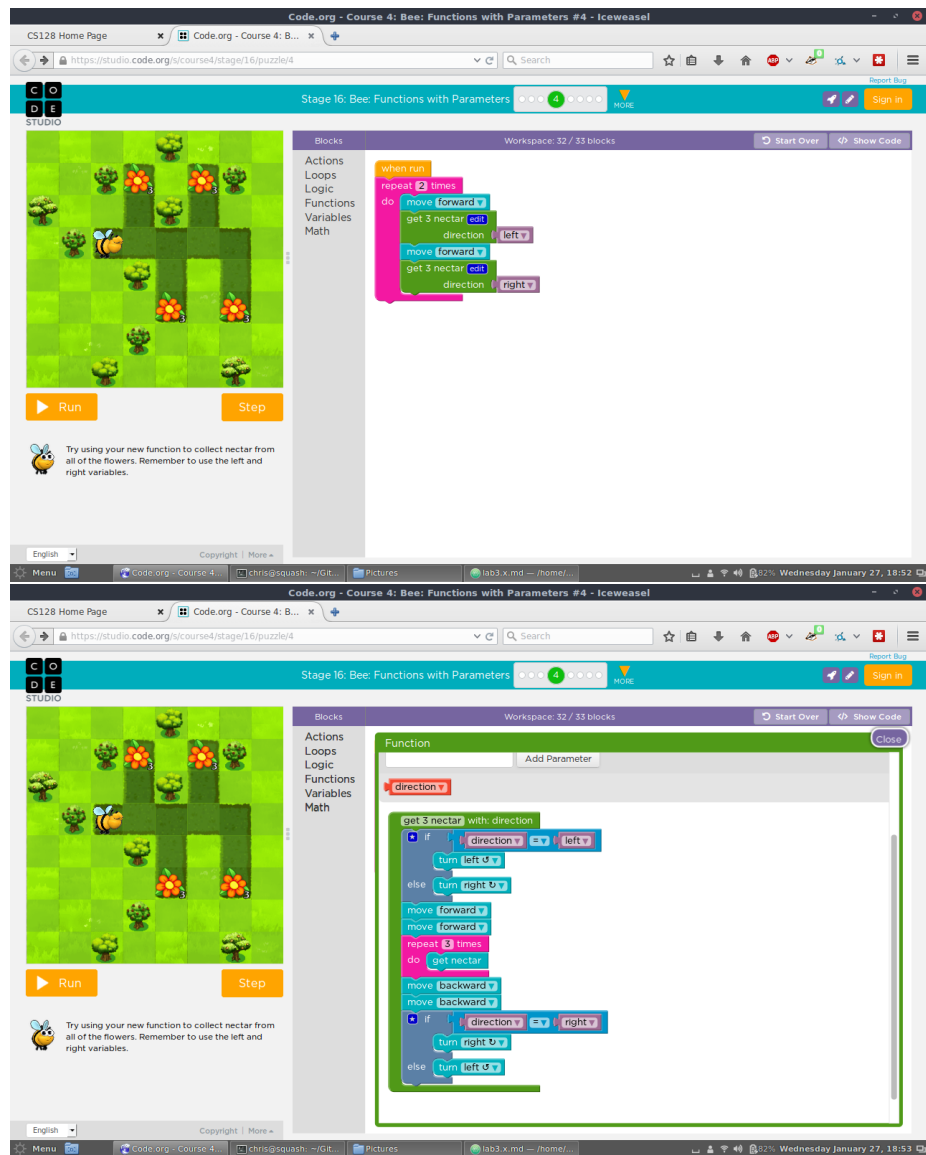
        turnLeft();
    } else {
        turnRight();
    }

    moveForward();
    moveForward();
    for (var count = 0; count < 3; count++) {
        getNectar();
    }
    moveBackward();
    moveBackward();
    if (direction == left) {
        turnRight();
    } else {
        turnLeft();
    }
}

left = 0;
right = 1;

for (var count2 = 0; count2 < 2; count2++) {
    moveForward();
    get_3_nectar(left);
    moveForward();
    get_3_nectar(right);
}

```



Stage 16, Puzzle 7 Code:

```

var binary;
var bit;
var i;

function draw(binary) {
  if (!bit) {

```



```

        bit = 0;
    }
    var i_end = binary.length;
    var i_inc = 1;
    if (1 > i_end) {
        i_inc = -i_inc;
    }
    for (i = 1;
        i_inc >= 0 ? i <= i_end : i >= i_end;
        i += i_inc) {
        if (binary.charAt(i - 1) == 1) {
            draw_bit();
        }
        jumpForward(50);
        bit = bit + 1;
        if (bit > 7) {
            jumpBackward(400);
            turnRight(90);
            jumpForward(50);
            turnLeft(90);
            bit = 0;
        }
    }
}

function draw_bit() {
    penColour('#ffffff');
    penWidth(25);
    for (var count2 = 0; count2 < 4; count2++) {
        moveForward(25);
        turnRight(90);
    }
}

for (var count = 0; count < 13; count++) {
    draw('10110');
}

```

Stage 16, Puzzle 10 Code:

```

var binary;
var counter;
var bit;
var i;

```

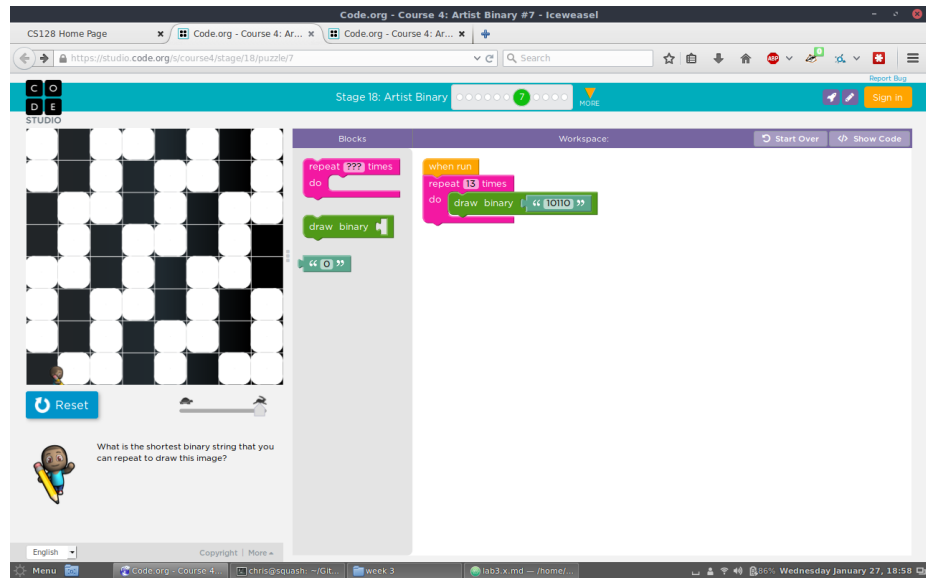


Figure 5: Stage 16, Puzzle 7

```
function draw(binary) {
  if (!bit) {
    bit = 0;
  }
  var i_end = binary.length;
  var i_inc = 1;
  if (1 > i_end) {
    i_inc = -i_inc;
  }
  for (i = 1;
    i_inc >= 0 ? i <= i_end : i >= i_end;
    i += i_inc) {
    if (binary.charAt(i - 1) == 1) {
      draw_bit();
    }
    jumpForward(25);
    bit = bit + 1;
    if (bit > 15) {
      jumpBackward(400);
      turnRight(90);
      jumpForward(25);
      turnLeft(90);
      bit = 0;
    }
  }
}
```

```

    }
  }
}

function draw_bit() {
  penColour('#ffffff');
  penWidth(12.5);
  for (var count7 = 0; count7 < 4; count7++) {
    moveForward(12.5);
    turnRight(90);
  }
}

for (counter = 1; counter <= 8; counter++) {
  for (var count = 0; count < counter; count++) {
    draw('1');
  }
  var repeat_end = 16 - counter * 2;
  for (var count2 = 0; count2 < repeat_end; count2++) {
    draw('0');
  }
  for (var count3 = 0; count3 < counter; count3++) {
    draw('1');
  }
}
for (counter = 8; counter >= 1; counter--) {
  for (var count4 = 0; count4 < counter; count4++) {
    draw('1');
  }
  var repeat_end2 = 16 - counter * 2;
  for (var count5 = 0; count5 < repeat_end2; count5++) {
    draw('0');
  }
  for (var count6 = 0; count6 < counter; count6++) {
    draw('1');
  }
}
}

```

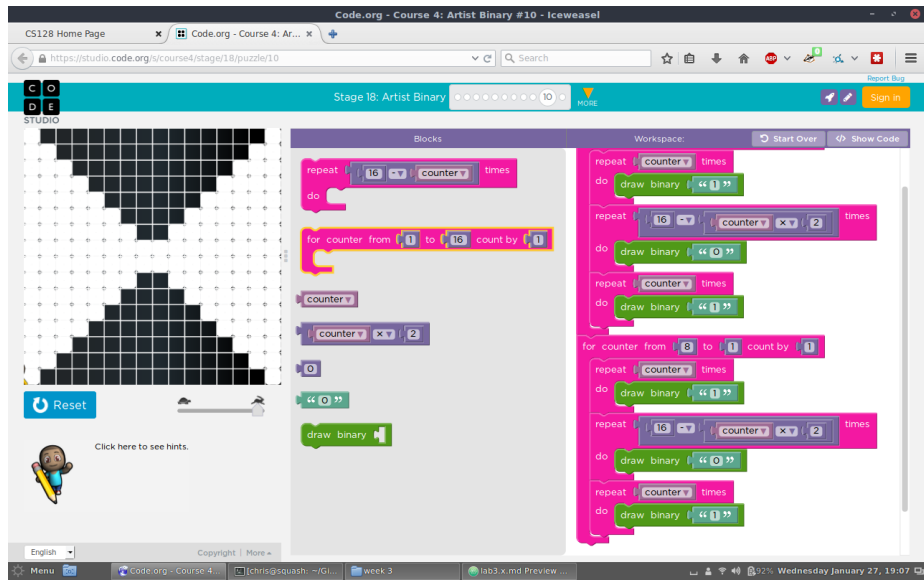


Figure 6: Stage 16, Puzzle 10