



COMP 125: Basics of Computer Organization

Week 05, Lecture 09



Agenda - Summarizing

- Environment
- Content
- Conditionals and Loops

Environment

What does the page understand?

p5js.org/reference/#Environment

- The console ([print](#))
- [Shape](#)/[size](#) of the canvas
- [Frame rate](#) of the draw() loop
- Cursor ([mouseX](#), [mouseY](#))

Content

- [Text](#)
- [Point](#)
- [Line](#)
- [Circle](#)
- [Four-point shape](#)
- Color ([fill](#))

Conditionals and Loops

if/else if/else

- Test conditionals (true/false)
- Brackets { } define blocks
- if/else if/else can make a chain
 - The first one that returns “true” breaks the chain!

```
// Make num_circles at most 5 and at least 0
if (num_circles > 5){
    num_circles = 5
}
if (num_circles < 0){
    num_circles = 0
}
```

Conditionals and Loops

if/else if/else

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- Brackets { } define blocks
- if/else if/else can make a chain
 - The first one that returns “true” breaks the chain!

```
1▼ function setup() {  
2   createCanvas(100, 100);  
3 }  
4  
5▼ function draw() {  
6   background(220);  
7  
8   circle(50, 50, 100)  
9  
10▼ if (mouseX < (width/3)){  
11   fill("■red")  
12 }  
13▼ else if (mouseX < ((2 * width) / 3)){  
14   fill("■orange")  
15 }  
16▼ else {  
17   fill("■blue")  
18 }  
19 }
```

Conditionals and Loops

for

- Takes:

- ☐ Starting variable
- ☐ Conditional
- ☐ “Step”
- ☐ Separated by semicolons “;”

- Steps:

- ☐ 1. Make the initial variable
- ☐ 2. Test the conditional
- ☐ 3. Run the body of the loop
- ☐ 4. Run the “step”
- ☐ 5. Return to (2)

```
for (var i = 0; i < 5; i = i + 1){  
    var x_location = 10 + (i * 10)  
    var y_location = 10  
    text(i, x_location, y_location)  
}
```

Preview

0 1 2 3 4

Conditionals and Loops

for

- Takes:

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- Steps:

- ☐ 1. Make the initial variable
- ☐ 2. Test the conditional
- ☐ 3. Run the body of the loop
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- ☐ 5. Return to (2)

```
for (var i = 0; i < 5; i = i + 1){  
    var x_location = 10 + (i * 10)  
    var y_location = 10  
    circle(x_location, y_location, 10)  
}
```

Preview



Conditionals and Loops

for

- Takes:

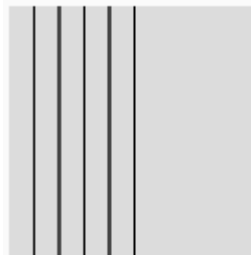
- ☐ Starting variable
- ☐ Conditional
- ☐ “Step”
- ☐ Separated by semicolons “;”

- Steps:

- ☐ 1. Make the initial variable
- ☐ 2. Test the conditional
- ☐ 3. Run the body of the loop
- ☐ 4. Run the “step”
- ☐ 5. Return to (2)

```
for (var i = 0; i < 5; i = i + 1){  
  var x_location = 10 + (i * 10)  
  var y_location_top = 0  
  var y_location_bottom = 100  
  line(x_location, y_location_top, x_location, y_location_bottom)  
}
```

Preview



Interaction

- [Input box](#)
- [Button](#)
- [Checkbox](#)
- [Drop-down](#)
- [Slider](#)
- [Radio buttons](#)