

Aesthetic Programming

Class 04- Code and Loading

*** Weekly mini ex2 – my first program | discussion in class:**

https://github.com/AUAP/AP2017/blob/master/all_miniex/mini_ex2/mini_ex2.md

- 1) Watch the assigned class materials and create a github account
- 2) Design a cartoon character/graphic that expresses noises/glitches/errors.
Write your first program with p5.js within 20 lines of code without errors.
- 3) Create a readme file and upload to the same mini_ex2 directory. The readme file should address the followings:
 - A screen shot about your program (see [this](#)).
 - Describe your coding process
 - What constitutes a program?
 - What is error?

What is code? What constitutes a program? What is error?

- an unknown error in the program that you could not relate to because of lack of knowledge of software programming
- I see an error, as a problem that arises in the computers system
- I see an error as something that needs to be fixed.
- Errors are essentially imperfections or mistakes made by the creators of the given object
- An error is when a result is different than the intended result.
- Error can be thought of not only as something to fear, but instead as a means to bring the capacity of something new.
- error is something unexpected.
- They can be minor annoyances and imperfections, or they can be critical errors that disrupts an entire program
- You can run into big and small errors
- I guess you could call it a "failure", but I prefer the term "learning experience""
- Metaphorically they are everywhere. If something doesn't work the way you want to you can call it an error

Any system that seeks the actualisation of unforeseen potential is also a system that has the capacity to become errant. Rather than thinking of the error as something to fear or avoid, we can think of an error as something that brings with it the capacity for the new and the unforeseen (perhaps it is this link to the unforeseen that is precisely the reason that we fear the errant).

Barker, 2007

What is code? What constitutes a program? What is error?

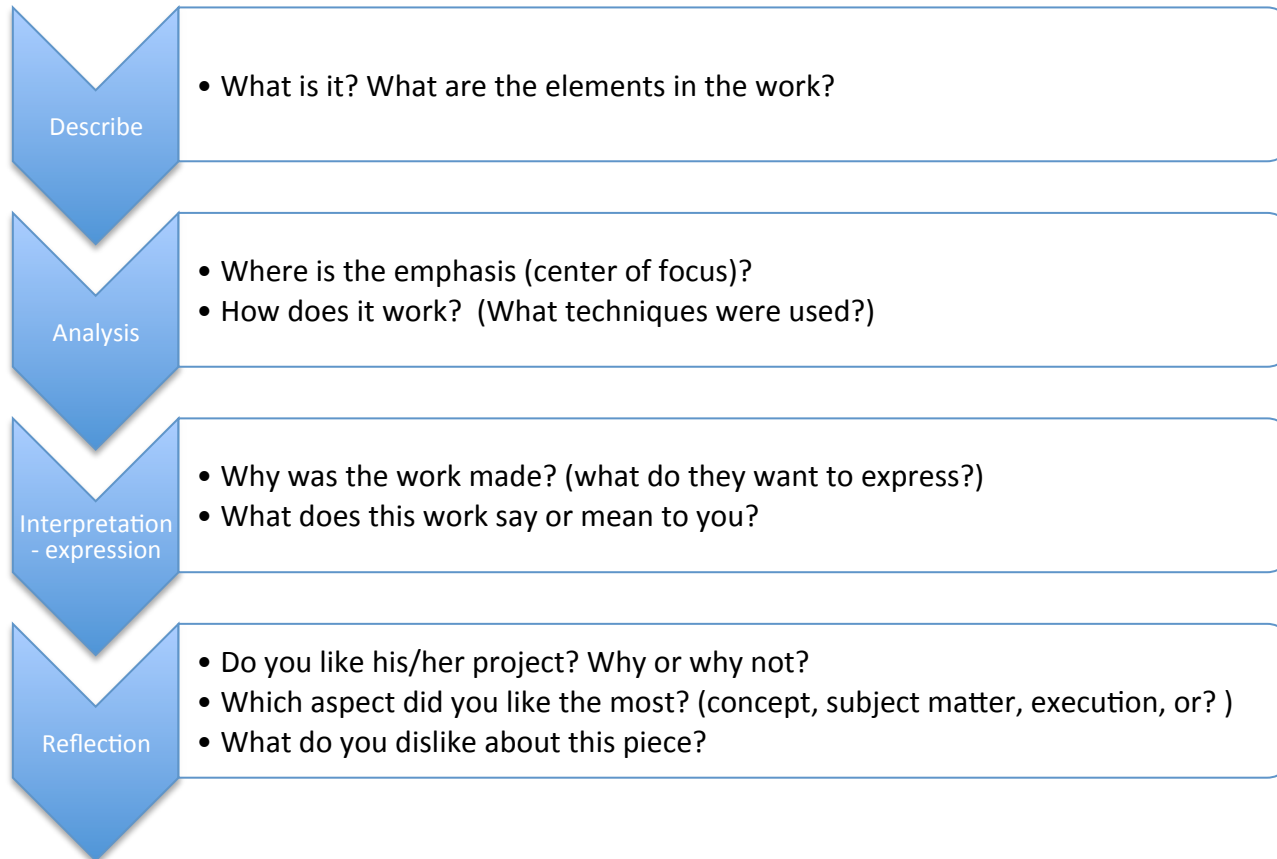
- I would say that a program is made of a lot of code. This code is what constitutes the capability of the program and its purpose.
- The “pre-program” part, which is everything you define for the program to draw upon
- a piece of independent software that create some form of algorithm.
- A program is a visualization made with code.
- a program is constituted of different sequences of instructions, that can be read or executed,
- So what constitutes a program...?
 1. Code (and a language (js, python etc))
 2. A programmer...
 3. A computer/smartphone/tablet/car etc where the code is manifested/doing its magic
 4. A user is able to perform action(s)
 5. Different actions is taking place (activated by user/system)

*** Weekly mini ex2 – my first program | discussion in class:**

https://github.com/AUAP/AP2017/blob/master/all_miniex/mini_ex2/mini_ex2.md

Presentation:

Based on reading other classmates' work and provided feedback, discuss with your neighbor using the critique framework:



Peer-tutoring: Group 1 / Respondents: Group 10

Topic: Loading with push() and pop()

- Describe the syntax, and how to use it?
- Sample code
- Can you discuss your work with one or more aspects of Fazi and Fuller's understanding of computational aesthetics?

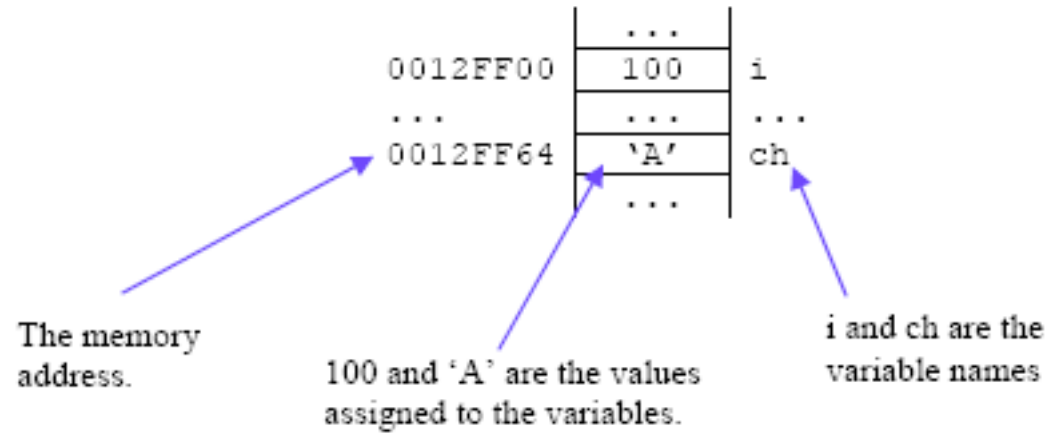
CODE AND LOADING

**** Add image (an animated gif)**
// the loading bar

```
1 //sketch04
2
3 var loading_createimg;
4
5 function preload() {
6   loading_createimg = createImg("images/loading.gif"); //img ref: http://i.imgur.com/omGnqz7.gif
7 }
8
9 function setup() {
10  console.log("Hello World");
11  createCanvas(820, 600); //create a drawing canvas
12  background(10);
13
14
15 }
16
17 function draw() {
18   loading_createimg.position(width/3,0); //loads GIF
19
20 }
21
22
```

What is variable? What constitutes variable?

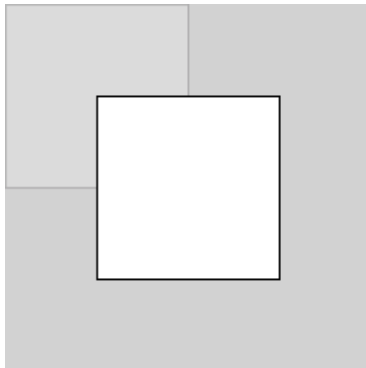
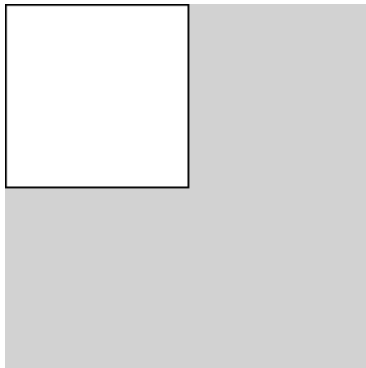
What is variable? What constitutes variable?



Variable (declare, initialize and use)

Transformation

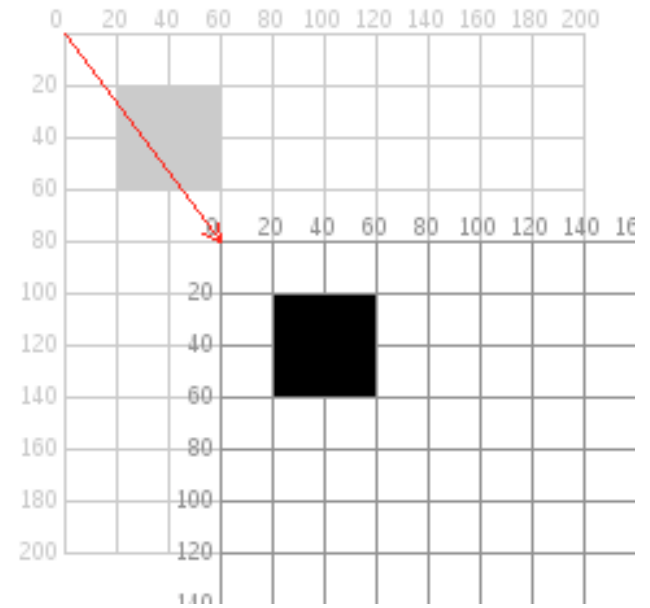
- translate;



```
rect(0, 0, 100, 100);  
translate(50, 50);  
rect(0, 0, 100, 100);
```



*a translation with an x-offset of 50 and a y-offset of 50
→ rect(50,50,100,100)

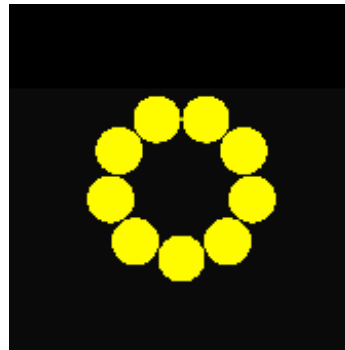


**** Add throbber #1 (static)**



```
17  translate(width/2, height/2);
18  var cir = 360/9*(frameCount%9); //360/num >> degree of each ellipse' move ;frameCount%num >> get
19  rotate(radians(cir));
20  noStroke();
21  fill(255,255,0);
22  ellipse(0,35,22,22); //the moving dot(s), the y is the distance from the center
```

** Add throbber #2 (moving)



```
~/Desktop/Desktop/data/Teaching/Aarhus/AP_2017/AP2017/class04/sketch04_inclass/sketch.js draw ⚡
1 //sketch04
2
3 var loading_createimg;
4
5 function preload() {
6   loading_createimg = createImg("images/loading.gif"); //img ref: http://i.imgur.com/omGnqz7.gif
7 }
8
9 function setup() {
10  console.log("Hello World");
11  createCanvas(820, 600); //create a drawing canvas
12  background(10);
13 }
14
15 function draw() {
16   loading_createimg.position(width/3,0); //loads GIF
17   fill(10,80); //check this syntax with alpha value
18   rect(0, 0, width, height);
19
20   translate(width/2, height/2);
21   var cir = 360/9*(frameCount%9); //360/num >> degree of each ellipse' move ;frameCount%num >> get the remain
22   rotate(radians(cir));
23   noStroke();
24   fill(255,255,0);
25   ellipse(0,35,22,22); //the moving dot(s), the y is the distance from the center
26
27 }
28
```

**** Add throbber #3 (slow down)**

```
1  //sketch04
2
3  var loading_createimg;
4
5  function preload() {
6    loading_createimg = createImg("images/loading.gif"); //img ref: http://i.imgur.com/omGnqz7.gif
7  }
8
9  function setup() {
10   console.log("Hello World");
11   createCanvas(820, 600); //create a drawing canvas
12   background(10);
13   frameRate(15); //try to change this parameter
14
15 }
16
17 function draw() {
18   loading_createimg.position(width/3,0); //loads GIF
19   fill(10,80); //check this syntax with alpha value
20   rect(0, 0, width, height);
21
22   translate(width/2, height/2);
23   var cir = 360/9*(frameCount%9); //360/num >> degree of each ellipse' move ;frameCount%num >> get
24   rotate(radians(cir));
25   noStroke();
26   fill(255,255,0);
27   ellipse(0,35,22,22); //the moving dot(s), the y is the distance from the center
28
29 }
```



**** Add throbber #4 (add push/pop so that the translate and rotate functions are not applicable to the new static line)**

```
1 //sketch04
2
3 var loading_createimg;
4
5 function preload() {
6   loading_createimg = createImg("images/loading.gif"); //img ref: http://i.imgur.com/omGnqz7.gif
7 }
8
9 function setup() {
10  console.log("Hello World");
11  createCanvas(820, 600); //create a drawing canvas
12  background(10);
13  frameRate(15); //try to change this parameter
14
15 }
16
17 function draw() {
18   loading_createimg.position(width/3,0); //loads GIF
19   noStroke();
20
21   fill(10,80); //check this syntax with alpha value
22   rect(0, 0, width, height);
23   push();
24   translate(width/2, height/2);
25   var cir = 360/9*(frameCount%9); //360/num >> degree of each ellipse' move ;frameCount%num >> get the rem
26   rotate(radians(cir));
27   noStroke();
28   fill(255,255,0);
29   ellipse(0,35,22,22); //the moving dot(s), the y is the distance from the center
30   pop();
31
32   stroke(255,0,0);
33   line(60,0,60,600); //a static line
34 }
```



**** Add throbber #5 (polish code)**

```
1 //sketch04
2
3 var loading_createimg;
4
5 function preload() {
6   loading_createimg = createImg("images/loading.gif"); //img ref: http://i.imgur.com/omGnqz7.g
7 }
8
9 function setup() {
10  console.log("Hello World");
11  createCanvas(820, 600); //create a drawing canvas
12  background(10);
13  frameRate (15); //try to change this parameter
14
15 }
16
17 function draw() {
18   loading_createimg.position(width/3,0); //loads GIF
19   noStroke();
20   fill(10,80); //check this syntax with alpha value
21   rect(0, 0, width, height);
22   drawThrobber(9); //pass to another function, try changing this number
23 }
24
25 function drawThrobber(num) {
26   push();
27   translate(width/2, height/2);
28   var cir = 360/num*(frameCount%num); //360/num >> degree of each ellipse' move ;frameCount%
29   rotate(radians(cir));
30   noStroke();
31   fill(255,255,0);
32   ellipse(35,0,22,22); //the moving dot(s), the y is the distance from the center
33   pop();
34
35   stroke(255,0,0);
36   line(60,0,60,600); //a static line
37
38 }
```



Function and Argument

- What constitute a function?
 - Return type
 - Function Name
 - Argument(s) > values that pass into a function

Mini exercise3 walkthrough: Design your own
throbber

Appendix



