|  |  |
| --- | --- |
| **Date Assigned: 9/29/13** | **Date Due: 10/2/13** |
| **Unit:** Methodology | **Turn In List:** **1. Terms** |
| *“I will be able to identify and prescribe solutions for various types of errors in a program.”* | |

**Working with Errors: What happens when a program breaks or fails?**

**Content Objectives:** Students will be able to identify and resolve syntax, runtime and logic errors while stepping through an application.

|  |
| --- |
| **Starter Activity** |
| Use a while loop to accomplish the following result:   |  |  | | --- | --- | | **Code** | **Result** | | // Paste code here:  int w, h;  int l;  void setup()  {  w = 500;  h = 800;  l = 0;  size(w, h);  background(255);  while(l < h)  {  line(0, l, w, l);  l += h/20;  }  } | Macintosh HD:Users:kkapptie:Desktop:Screen Shot 2013-10-03 at 6.49.48 AM.png |   Use a for loop to accomplish the following result:   |  |  | | --- | --- | | **Code** | **Result** | | // Paste code here:  //Oliver Flatt  //Starter While and For loops  int w, h;  int l;  void setup()  {  w = 500;  h = 800;  l = 0;  size(w, h);  background(255);  for (int i = 0; i < 20; i = i+1)  {  line(0, l, w, l);  l += h/20;  }  } | Macintosh HD:Users:kkapptie:Desktop:Screen Shot 2013-10-03 at 6.49.48 AM.png | |

|  |  |
| --- | --- |
| **Key Terms:** | |
| Syntax Error | Violates language and does not allow you to run the program |
| Runtime Error | The program compiles but may crash during runtime |
| Logic Error | Will run but somewhere produces a false value or has false logic |
| Break Point | The point in your code that stops the program when reached |
| Iterate or Iteration | A loop that only repeats if it evaluates true for the an expression |

|  |
| --- |
| **Assignment:** |
| Complete the code to accomplish the result on the right:   |  |  | | --- | --- | | void setup()  {  size(200, 200);  background(255);  float w = 200;  while (w > 0)  {  stroke(0);  fill(w);  ellipse(100, 100, w, w);  w -= 20;  }  } | Macintosh HD:Users:kkapptie:Desktop:Screen Shot 2013-10-03 at 9.45.11 AM.png |   Complete the code to accomplish the result on the right:   |  |  | | --- | --- | | void setup()  {  size(200, 200);  background(255);  for (int w = 200; w > 0; w = w - 20)  {  stroke(0);  fill(w);  ellipse(100, 100, w, w);  }  } | Macintosh HD:Users:kkapptie:Desktop:Screen Shot 2013-10-03 at 9.45.11 AM.png |   Use a nested loop to create random filled rectangles inside a canvas (8 lines of code in a for loop):   |  |  | | --- | --- | | void setup()  {  size(200, 200);  background(255);  size(200, 200);  for (int x = 0; x < width; x+=10)  {  for (int y = 0; y < height; y+=10)  {  fill(random(0, 255));  rect(x, y, 10, 10);  }  }  } | Macintosh HD:Users:kkapptie:Desktop:Screen Shot 2013-10-03 at 7.21.37 AM.png |   **Etch-A-Sketch**  Modify the code below to create an algorithm to write your name.   |  |  | | --- | --- | | int x, y;  void setup() {  size(400,400);  frameRate(10);  // Set start coords  x = 0;  y = 0;  }  void draw() {  fill(255);  drawName();  noLoop();  }  // Algorithm for your first name  void drawName() {  moveRight(1);  }  // Method to draw right line  void moveRight(int rep) {  for(int i=0;i<rep\*10;i++){  point(x+i,y);  }  x=x+(10\*rep);  } | Mac HD:Users:kkapptie:Desktop:Screen Shot 2014-09-29 at 6.40.57 AM.png | |

Notes (Points of interest, mistakes, lessons learned, web resources, and thoughts):

|  |
| --- |
|  |