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| **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.

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| **Starter Activity** |
| Use a while loop to accomplish the following result:   |  |  | | --- | --- | | **Code** | **Result** | | // Paste code here:  int i = 0;  while (i < 300) {  line (0,i,width, i);  i += 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:  for ( int a = 0; a <= 300; a+= 20)  {  line (0,a,width,a);  } | Macintosh HD:Users:kkapptie:Desktop:Screen Shot 2013-10-03 at 6.49.48 AM.png | |

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| **Key Terms:** | |
| Syntax Error | Language violation |
| Runtime Error | Syntax may be correct. Something that happens at runtime. |
| Logic Error | Will run. Produces outcome that isn’t intended. |
| Break Point | A feature of the IDE. Instructs the application to stop during some point during runtime to monitor variables. |
| Iterate or Iteration | Looping. Several runs of the same line of code. |

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| **Assignment:** |
| Complete the code to accomplish the result on the right:   |  |  | | --- | --- | | 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:   |  |  | | --- | --- | | size(200, 200);  background(255);  for (int a = 200; a >= 0; a-=20) {  stroke(0);  fill(a);  ellipse(100, 100, a, a);  } | 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):   |  |  | | --- | --- | | size(200, 200);  for (int i = 5; i <= width; i += 10) {  for (int y = 5; y <= height; y += 10) {  fill(random(222));  rectMode(CENTER);  rect(i,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):

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