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| **Date Assigned: 9/26/16** | **Date Due: 9/28/16** |
| **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** | | // code here:  for(int i=0;i<100;i+=10) {  line(0,i,width,i);  } | 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** | | // code here:  int i = 0;  while (i < 100) {  line(i,0,i,height);  i +=10;  } | Macintosh HD:Users:kkapptie:Desktop:Screen Shot 2013-10-03 at 6.49.48 AM.png | |

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| **Key Terms:** | |
| Syntax Error | A language violation, so that the program will not run (under most circumstances). |
| Runtime Error | Will only break the application if it is run. Usually a series of events. |
| Logic Error | Violates the intended use or functionality. |
| Break Point | Used to stop the application at a certain point. |
| Iterate or Iteration | Doing something of a repeat. two ways to handle: set top and bottom bounds or user Boolean expression. |

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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 > 200) {  stroke(0);  fill(0+ w);  ellipse( width/2,height/2,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 w = 200 ; w > 0 ; w += -20) {  stroke(0);  fill(0 +w);  ellipse(width/2,height/2 ,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):   |  |  | | --- | --- | | 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):

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