| **Unit:** Methodology | **Turn In List:** **1. Terms** |
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| *“I will vow to format code so that it is readable and easy to interpret. Good developers don’t try to hide things in source code.”* | |

**Conditions and Formatting Code: Using proper format while introducing conditions in code**

**Content Objectives:** Students will be able to identify and format code appropriately while using appropriate methods with return values.

| **Starter Activity** |
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| **Key Terms:** | |
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| White Space | For humans white space means readability in code. For computers, space is stripped out of your code when it runs. |
| Camel or Pascal Case | Pascal casing will capitalize the first and subsequent letters in a variable name or method name. Camel case is the same except for the first character being lower case. |
| Condition | Any question that is going to help form a decision. |
| If | If starts a decision making block of code. |
| If else | The second condition in an if block. |
| Boolean Expression | Any question that resolves as true or false. |
| Boolean Variable | Data type storing true or false. |

| **Assignment:** |
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| Students will explore methods with a return type. Consider the following:  C = (F – 32) \* (5 / 9)  \_\_\_\_\_\_ tempConverter(float \_\_\_\_\_\_\_\_) {  \_\_\_\_\_ \_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  }  Answer:  float farToCel(float val) {  val = (val-32)\*5.0/9.0;  return val;  }  float celToFar(float val) {  val = val\*(9.0/5.0)+32.0;  return val;  } |
| For this assignment students will create a conversion app that utilizes a method with a return value and the position of the mouse or a line on the screen controlled by the keyboard (or both). Make sure to include the following:   * Title and developer info (your name) * Onscreen instructions * Reference line or shape * Numbered increments and tic marks on screen (hint: use loop) * Updated total as the mouse moves or the arrow keys are pressed   Appropriate conversions may include any of the following:   * Any distance measurement i.e. miles to km etc. * Any volume measurement * Any currency conversion * Math functions i.e. squares or squareroots * Etc. |

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

| // Nandhini Ramanathan | 5 October 2022 | Conversion App  void setup() {  size(1010, 250);  }  void draw() {  background(#BCE5F5);  line(0, 120, width, 120);  fill(#A57B3C);  textSize(25);  textAlign(CENTER);  text("Miles To Kilometers", width/2, 40);  textSize(15);  text("by Nandhini Ramanathan", width/2, 60);  text ("Use your mouse to slide the box along the line to get conversions from Miles to Kilometrs. The cursor represents Miles.", width/2, 225);  fill(#053D95);  for (int i=0; i<width; i+=20) {  line(i, 115, i, 125);  textSize(9);  textAlign(CENTER);  text(i, i, 110);  }  rect(mouseX, 118, 5, 5);  text(mouseX, mouseX, 135);    textSize(12);  text("Kilometers:" + milToKil(mouseX), width/2, 200);  text("Miles:" + kilToMil(mouseX), width/2, 180);  }  float milToKil(float val) {  val = val\*1.609;  return val;  }  float kilToMil(float val) {  val = mouseX;  return val;  } |
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