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| Date Assigned: 12/1/16 | **Date Due: 12/5/16** |
| **Unit:** Languages | **Turn In List:** **1. Terms** |
| *“I will be able to declare the language of focus for Semester 2 .”* | |

**Computer Programming Languages: An in-depth analysis**

**Content Objectives:** Students will research each of the five languages acceptable for the 2A computer programming state CTE certification. The following [Wiki article](http://en.wikipedia.org/wiki/Comparison_of_programming_languages) may help in your search. [Language popularity article](http://en.wikipedia.org/wiki/Measuring_programming_language_popularity).

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| **Starter Activity** |
| Soldier s1;  Soldier[] s = new Soldier[1];  void setup() {  size(500,950);  background(30,200,55);  }  void draw() {  s1 = new Soldier(mouseX, 900);  }  class Soldier{  String name;  int x,y,w,h;    Soldier(int x, int y){  this.x=x;  this.y=y;  }  void display() {  //body  rect(x, y, 4, 5);  //arm left  rect(x-5, y, 2, 6);  //arm right  rect(x+5, y, 2, 6);  //left leg  rect(x-3, y+10, 3, 8);  //head  ellipse(x+2,y+2,2,2);  }  }  class People {  int x, y;    People(int x,int y){  this.x=x;  this.y=y;  }  void display() {  //body  rect(x, y, 4, 5);  //arm left  rect(x-5, y, 2, 6);  //arm right  rect(x+5, y, 2, 6);  //left leg  rect(x-3, y+10, 3, 8);  //head  ellipse(x+2,y+2,2,2);  }  } |

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| **Key Terms: (lookup each language and write a short description of each)** | |
| **C++** | mid level programing language started in 1979 object oriented |
| **C#** | Multi paradigm language with strong typing |
| **Java** | An online language used for calculations or 3d images |
| **Python** | High level general purpose language mostly used for websites |
| **Visual Basic** | Microsoft uses graphic user interface to choose and modify code |
| Type Safety | A language that ensures that an operation is on the right kind of data |
| Interpreted | Explains the meaning of something |
| Procedural | The procedures used in a certain situation |
| Compiled | Convert into machine code or lower level were the program can be executed |

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|  | **C++** | **C#** | **Java** | **Python** | **Visual Basic** |
| Intended Use  (Why it was created) | To improve on the original C language | Object oriented and is general purpose | Original intended use was for hardware and development | Used for browsers | Drag and drop interface |
| Strongly Typed  (how variables are typed) | yes | yes | yes | dynamically | no |
| OS’s  (what operating systems are targeted) | all | windows | Virtually everything phones, all operating systems | Web browsers | Microsoft/windows |
| Industry (whats the use) | Gamed, office apps, graphics, video editors and operating systems, nearly everything not online. | Third parry apps windows | Game development android soft ware | Browser interfaces | Microsoft development |
| **Atoms(hardware) or Bits(software)**  **(screen[computer systems] or physical world [robotics] )can it be used for these** | both | bits | bits | bits | bits |
| Current Version (latest version) | C++14 | C# 6.0 | Java 8 | 3.5.2 | 10 |
| Official Standard (website for each) | https://isocpp.org | https://msdn.microsoft.com/en-us/library/67ef8sbd.aspx | https://www.java.com/en/ | https://www.python.org/ | https://www.visualstudio.com/ |

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| **History and Background of the Language you are interested in:** |
| You may work in pairs for this portion but you need to submit your own file to Canvas. Give the When’s, Who’s, Why’s, Where’s, How’s and worldwide popularity pulse applicable for the language you are considering. (Note, this is NOT your final decision.) |

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| **Assignment:** |
| Rewrite Class from Starter:  Find the official standard website or simply do a google search for your language and “class” or “object” and do your best to re-write the class from starter in the new language (code not require to build or compile.) |

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

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