**PEX 0: LANGUAGE SPECIFICATION**

**INSTRUCTIONS**

1. Read the language specification on the CS426 website. It will tell you what features your programming language needs to have.
2. In the space provided below, write code snippets that show what your language will look like when declaring variables/functions, looping, etc.
   1. IMPORTANT: Your snippets do not have to form complete programs. It is okay, for example, to write a while loop snippet without having a main function. Alternatively, you can write a snippet that calls a function without having to define that function up above. Bottom Line: your examples need to focus more on the construct being demonstrated rather than whether or not it would actually compile.
   2. ALSO IMPORTANT: This is just a starting point. You might find out that you need to change your language as you implement PEX 1-4. That’s fine (and normal)!

**DOCUMENTATION STATEMENT**

|  |
| --- |
| None! |

**CODE SNIPPETS**  
*Note: Feel free to expand the boxes below if you need additional space. This exercise is primarily for you, so make sure you are being thorough!*

*Comments*

|  |
| --- |
| // This is just a comment |

*Variable / Constant Declarations*

|  |
| --- |
| int VariableName...  str String\_Name... |

*Variable Assignments / Literal Values*

|  |
| --- |
| VariableName is 50...  String\_Name is “Hello World”...  String\_Name is “Quotes look like #” and the escape is a ##”... |

*Conditional / Branching Statements*

|  |
| --- |
| If {something is true}[  // Do something  ]  Then [  // Do something else  ] |

*Iterative Control Structure*

|  |
| --- |
| Gyro {until something is true}[  // Do some stuff  ] |

*Function Definitions*

|  |
| --- |
| Helper FunctionName {parameter...parameter...parameter}[  // Function does something  ] |

*Main Function / Method*

|  |
| --- |
| Nucleus {}[  // Main operations of the program  ] |

*Write a program that calculates the circumference of a circle (C = 2\*pi\*r). You will need to define the constant pi (use 3.14 for simplicity) and do the math in a function with the radius being a parameter. Call the function in the main method:*

|  |
| --- |
| Const Float PI is 3.14...  Helper Circumference {Float radius}[  Float C...  C is (2 \* PI \* radius)...  ]  Nucleus {}[  Float radius...  Circumference{radius}...  ] |