Roman Styrku

Assignment 3: Due: 2/11/2019

Give one example to non-regularity on any programming language that you know. You should provide an example to each one of the following categories: Generality, Orthogonality, and Uniformity. That is, you will give total three examples and explain why...

* Programming Language C++
  + Generality: C++ achieves generality because it allows you to combine closely related constructs into more simple ones. For Example:
    - OrderedPair a = (12,3);

OrderedPair b = (12,3);

if ((a.l == b.l) && (a.w == b.w)){

cout >> (“They are Equal”);}

//Or you could do:

if(a == b){

cout >> (“They are Equal”);}

Through Generality it is able to use a simpler approach and not constantly require the programmer to compare each value separately.

* + Orthogonality:
    - C++ does not achieve orthogonality because there are some types that it will not properly return. For example: Any function in C++ will be able to return an INT or STRING or CHAR, ETC. but if you try returning an array through the functions then it won’t be able to return the array properly. This causes it to not achieve orthogonality. Even though it doesn’t allow you to return the arrays, you are still able to return the arrays you are just required to return them in pointer form instead of array form.
  + Uniformity:
    - One example of why C++ does not achieve uniformity is simply through inconsistent semicolon requirements. An example of this is that when you are filling the body of a function within a class, you are not required to put a semicolon, but if you are declaring the function in the class but adding the body in a separate .cpp file, you are required to use the semicolon or it won’t compile properly.
  + Since C++ has generality but not orthogonality or uniformity, it is a non-regular language.