

CS330: Programming Language Project (PLP)

Assignment 4: Control flow

Due: February 27, 2019

Now that you've had an opportunity to study the data types and statements in the programming language you chose to learn in CS330, it's time to start using them. Find out how the following control statements are written in your language and write an example of each. If your language doesn't support these control statements specifically, try to find a way to emulate the behavior:

- one-condition **if/else** statement (e.g. "if $x == 2$ ")
- multi-condition **if/else** statement (e.g. "if $x > 0 \&& y < 10$ ")
- different kinds of loops: **while**, **do/while**, **for**, **foreach**
- **switch-case** statement
- **break** and **continue** statements

For your write-up, answer the following questions:

1. What types of conditional statements are available in your language? (e.g.: if/else, if/then/else, if/elseif/else). Does it allow for statements other than "if" (e.g. Perl has an "unless" statement, which does the opposite of "if"!) Available conditional statements in C++ are: if statement, if- else statement, nested if statement, and if-else-if-else statement. ([source](#))
2. Does your language use short-circuit evaluation? If so, make sure that your code includes an example. C++ does use short-circuit evaluation.
3. How does your programming language deal with the "dangling else" problem? C++ has a rule that you cannot have "if without an else" as the body of an "if with an else". Otherwise, you'll get an error message.
4. Does your language include multiple types of loops (while, do/while, for, for each)? If so, what are they and how do they differ from each other? C++ includes multiple types of loops. (See code for examples of loops and how they differ from one another.)
5. Can you use break or continue statements (or something similar) to control iteration? You can use break or continue statements to control iteration.
- . 6. If your language supports switch or case statements, do you have to use "break" to get out of them? Can you use "continue" to have all of them evaluated? You can use "break" to get out of switch statements, but it is not required ([source](#)); you can't use "continue" with switch statement.

7. Is there anything special in terms of control flow that your language does that isn't addressed in this assignment? If so, what is it and how does it work? Include an example of it in your code. Not that I can note.

If your language doesn't support anything like this, then explain why not and what it does instead (feel free to check in with me on this if you aren't sure what your language does).

Make sure that your answers are clear and accurate and use fully-formed sentences. Remember, these tutorials are in public (by default) repositories and GitHub users don't have the context of your assignment. Explain the reasoning behind the answers as much as possible. If there is no clear-cut answer to a question, explain why not.

Cite your sources!

You can incorporate code into your tutorial to show examples, but you should also have a file (that can be downloaded and run) in your repository that is just commented code to demonstrate how all of these FoPC statements are written in your language.