# CS 315
# Homework Assignment 2

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**Assigned: December 7, 2020**
**Due: December 14, 2020, 23:59**

## Logically Controlled Loops in Dart, Javascript, Lua, PHP, Python, Ruby, and Rust

In this homework assignment you will investigate how some design issues, related to the logically controlled loops, are addressed in Dart, Javascript, Lua, PHP, Python, Ruby, and Rust languages. The design issues you will investigate are

- What are the location of tests? Pretest, posttest, or both?
- What kind of user-located loop control mechanisms are provided?

First investigate how each of these issues are answered in each of these programming languages. Then write simple programs *clearly* illustrating the design decisions for the issues in the languages. Discuss the results of execution of your programs in a report.

For each design issue and for each language, your example codes should explain the answer using code segments in the respective language. You can illustrate the answers to these questions, in different parts of a single program. The example programs must be complete.

You can use online compiler/interpreters for this homework.

For each language, prepare a single source code file that examplifies and tests each design issue, in the order given above. Your example programs must be different than the sample codes that may be available in the Internet. To help the TA understand your code and give you good grades, appropriately comment your source to explain your example and why your example is appropriate for this homework.

Organize all of your experiments and their results and put them into a report. The report should include the following:

- For each language and for each design issue, sample code segments and the results of their execution. You should explain what your example does, clearly. Make sure you give a list of references and proper citations to these references in your report about the design choices for these issues in the languages covered in this homework. (45 points)
- A section that includes your evaluation of these languages in terms of readability and writability of logicall-controlled loops. Write a paragraph discussing, in your opinion, which language is the best for logicall-controlled loops.. Explain why. (10 points)
- A section about your learning strategy. A learning strategy is an individual's approach to complete a task. In this section, discuss, in detail, the material and tools you used, experiments you performed. Also talk about personal communication, if you had. Give the URLs of the online compiler/interpreters you used to run your programs (10 points)

**Submission:**

A single **`zip`** or **`rar`** file should be submitted containing the following files with given names:

1. A single file for **report**: `lastname_name_report.pdf` (65 Points)

2. A folder called, **Codes**. The contents of the folder will be as follows:
    1. A single file for **Dart** code: `lastname_name.dart` (5 points)
    2. A single file for **Javascript** code: `lastname_name.html` (5 points)
    3. A single file for **Lua** code: `lastname_name.lua` (5 points)
    4. A single file for **PHP** code:`lastname_name.php` (5 points)
    5. A single file for **Python** code: `lastname_name.py` (5 points)
    6. A single file for **Ruby** code: `lastname_name.rb` (5 points)
    7. A single file for **Rust** code: `lastname_name.rs` (5 points)

Please upload the **`zip`** or **`rar`** file you created to Moodle before the due date.

**Important Notes:**

- Late submissions will be accepted, with 10 points (out of 100) deduction for each extra day.
- You may use the tutorials available in the Internet as a reference, but do not derive your example from the contents of the tutorials. If you do so, your programs may be similar to others in the class, that causes a disciplinary investigation.
- Collaboration on the homework is not allowed.