Quiz 1 Review

Quiz 1 will be in class on Tuesday, February 6. It will be given on paper – no computers – and you're permitted to bring one (8.5×11-inch, double-sided) sheet of handwritten notes to use during the exam.

Topics

- Expressions over different types of data: numbers, strings, Booleans, images

- Data abstraction: naming values with =, naming conventions

- Functional abstraction: defining functions with input parameters, return type, docstrings, and examples in a `where` block; calling functions

- `if–else` expressions and the rules for evaluating them

- Program directory (names and values)

- Step-by-step evaluation of an expression

- Reading and understanding Pyret code

- Writing Pyret code, designing functions

- (*Optional*) Tables: accessing rows, columns; filtering, ordering, or adding columns

Example problems

- Given a Pyret expression:

    - Step-by-step evaluation
    - Fill in the program directory as you go

- Given a function with a missing `where` block:

    - The function will be incorrect in some way

    - Write examples to fully test the function's behavior

    - Write a corrected version of the function

- Given a problem statement and a partially written function:

    - Fill in the missing parts, which may include the function header, docstring, body, or `where` block

- Functional abstraction: Given an expression that is composed of repetitive parts (subexpressions)

    - Identify what the subexpressions have in common and what is different,

    - Write a function that includes the commonalities and parameterizes the differences,

    - Then write a second function that uses the first function (as a helper function) to simplify the original expression

- Challenge problem: Tables

    - Not required!

    - Given a table

    - Write a function that filters it, orders it, or adds a column

    - Or accesses its rows, columns, or values in some way