

WebQA

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Overview

- Purpose
 - Quality assurance for dynamic web application
 - “Unit Tests for web pages”
- Syntax/Semantics
 - Object oriented
 - Dynamically typed
 - Statically scoped
 - Ruby-ish syntax and semantics

Features

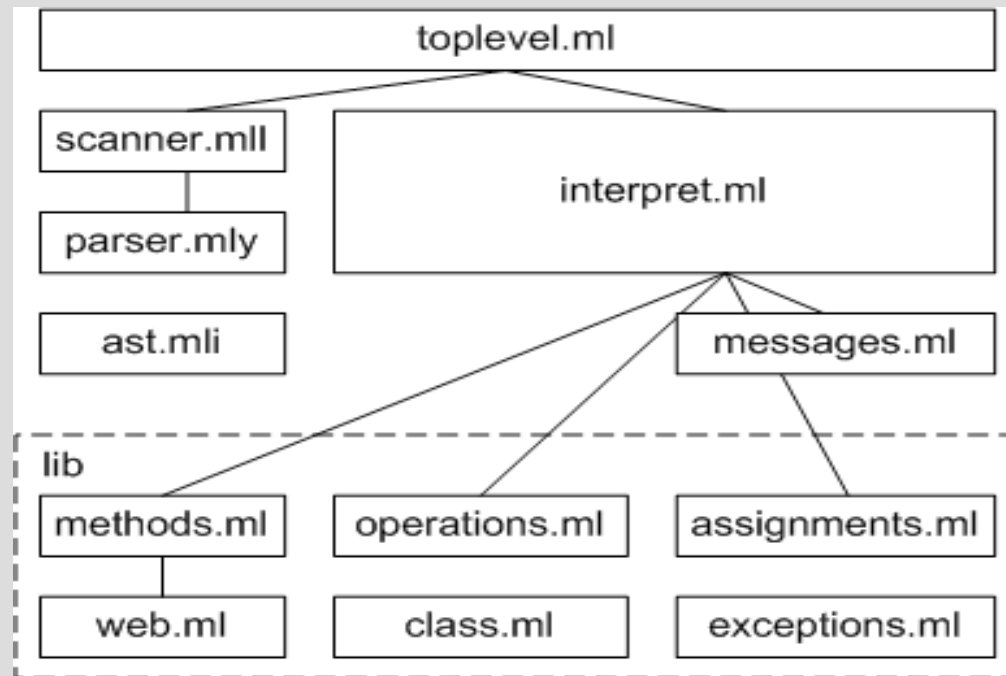
- Basic types and operations
- List and dictionaries (arrays and hash tables)
- if/else/while/for
- User defined functions
- Regular expressions
- Iterators
- Assertions
- Website lookup

Tutorial

- Overview Used Books @ Columbia
- Demo

Implementation

- Features
 - Line numbers (Errors and assertions)
 - Run time type checks
 - Multi-line statements



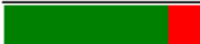












Test strategy: features, errors, algorithms

Python test framework

86 Tests

- 0001-0009 Basic data types
- 0010-0019 Basic operations
- 0030-0039 Basic data type methods
- 0040-0049 Assignment
- 0100-0109 Conditionals
- 0110-0129 Loops
- 0200-0299 User-defined functions
- 0300-0399 Execution order
- 0600-0699 Errors
- 0700-0799 Assertions
- 0900-0999 Algorithms
- 1000-1099 Web operations
- 1101-1199 Web tests

Per-file coverage

coverage	file
 82%	assignments.ml
 -%	class.ml
 -%	exceptions.ml
 75%	floc.ml
 100%	html.ml
 89%	interpret.ml
 68%	messages.ml
 72%	methods.ml
 67%	operations.ml
 96%	printer.ml
 100%	stringHash.ml
 93%	toplevel.ml
 80%	web.ml

Lessons learned

- Project
 - Starting early paid off
 - Scheduling meetings is NP-complete...
- O'Caml
 - Type inference is extremely helpful
 - Write-only language
 - Debugging is hard, but almost not needed
- Testing
 - Test driven development is helpful