Abusing pyunit To Run Regression Tests

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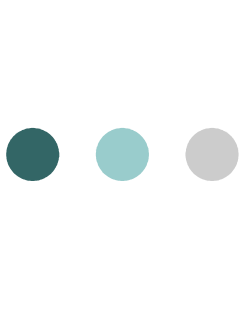
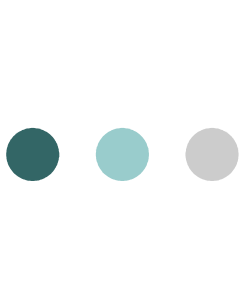


pyunit

- `unittest` module in Python standard library
- One of the XUnit frameworks
- Designed for Unit Testing
- I'd like to use it for Regression Testing
  - Checks for “good” known output from a program



Main Idea

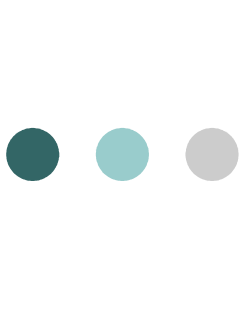
- Have one method to run a regression
- Dynamically add test function to test class
- Expected output is in `gold` directory
- Can have input in `input` directory
- gold/input names are test names

One “real” test function

```
def runtest(self, name, arguments):
  outfile = join("out", name)
  goldfile = join("gold", name)

  # Run program
  if system("echo %s > %s 2>&1" % \
       (" ".join(arguments), outfile)) != 0:
            self.fail("non-zero value return")

       # Check output
  if differ(outfile, goldfile):
    self.fail("output for %s differs" % name)
```

Adding a Test

```
def add_test(name, arguments):
    '''Add a test "name" with "arguments"
    Note: "name" must be qualified Python
    variable name
    '''

    def t(self):
        self.runtest(name, arguments)

    t.func_doc = "Testing %s" % name
    setattr(TestEcho, "test_%s" % name, t)
```



Adding All Tests

```
for test in glob(join("gold", "*")):
    # Only files are tests
    if not isfile(test):
        continue

    test = basename(test)
    add_test(test, [test])
```

Running

- `unittest` has a `main` function that check current source file for all class derived from `TestCase` and runs all methods starting with `test` in it

```
# Main
if __name__ == "__main__":
    main() # Imported from unittest
```

Questions?