```
========================================================================
FAIL: test_fail_1 (__main__.TestCase)
------------------------------------------------------------------------
Traceback (most recent call last):
  File "test_leap.py", line 15, in test_fail_1
    self.assertEqual(leap.leap_year(1999), 1)
AssertionError: 0 != 1

========================================================================
FAIL: test_fail_2 (__main__.TestCase)
------------------------------------------------------------------------
Traceback (most recent call last):
  File "test_leap.py", line 17, in test_fail_2
    self.assertEqual(leap.leap_year(2016), 0)
AssertionError: 1 != 0


------------------------------------------------------------------------
Ran 4 tests in 0.001s

FAILED (failures=2)
PS C:\Users\tguyo\Documents\in_class_3>
```

Output of running unittest. This is expected considering my two pass and fail cases.

```
================================= FAILURES =================================
_____ TestCase.test_fail_1 _____

self = <test_leap.TestCase testMethod=test_fail_1>

    def test_fail_1(self):
>       self.assertEqual(leap.leap_year(1999), 1)
E       AssertionError: 0 != 1

test_leap.py:15: AssertionError
_____ TestCase.test_fail_2 _____

self = <test_leap.TestCase testMethod=test_fail_2>

    def test_fail_2(self):
>       self.assertEqual(leap.leap_year(2016), 0)
E       AssertionError: 1 != 0

test_leap.py:17: AssertionError
========================= short test summary info =========================
FAILED test_leap.py::TestCase::test_fail_1 - AssertionError: 0 != 1
FAILED test_leap.py::TestCase::test_fail_2 - AssertionError: 1 != 0
========================= 2 failed, 2 passed in 0.06s =========================
PS C:\Users\tguyo\Documents\in_class_3>
```

Output of running pytest. This is also expected and runs the same unittest formatted pass and fail cases.

```
PS C:\Users\tguyo\Documents\in_class_3> coverage run test_python.py
No file to run: 'test_python.py'
PS C:\Users\tguyo\Documents\in_class_3> coverage run test_leap.py
FF..
======================================================================
FAIL: test_fail_1 (__main__.TestCase)
----------------------------------------------------------------------
Traceback (most recent call last):
  File "test_leap.py", line 15, in test_fail_1
    self.assertEqual(leap.leap_year(1999), 1)
AssertionError: 0 != 1

======================================================================
FAIL: test_fail_2 (__main__.TestCase)
----------------------------------------------------------------------
Traceback (most recent call last):
  File "test_leap.py", line 17, in test_fail_2
    self.assertEqual(leap.leap_year(2016), 0)
AssertionError: 1 != 0

----------------------------------------------------------------------
Ran 4 tests in 0.001s

FAILED (failures=2)
PS C:\Users\tguyo\Documents\in_class_3> coverage report
Name                                                                                    Stmts   Miss  Cover
---------------------------------------------------------------------------------------------------------
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\__init__.py           5      2    60%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\_code\__init__.py     10      0   100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\_code\code.py        697    463    34%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\_code\source.py      142    106    25%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\_io\__init__.py        3      0   100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\_io\saferepr.py       67     49    27%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\_io\terminalwriter.py 112     86    23%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\_io\wcwidth.py         25     20    20%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\_version.py            2      0   100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\assertion\__init__.py  84     57    32%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\assertion\rewrite.py  626    527    16%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\assertion\truncate.py  52     40    23%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\assertion\util.py     294    255    13%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\cacheprovider.py      313    232    26%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\capture.py            559    387    31%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\compat.py             160     90    44%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\config\__init__.py    804    630    22%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\config\argparsing.py  252    196    22%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\config\exceptions.py    4      0   100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\config\findpaths.py   127    104    18%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\debugging.py          226    173    23%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\deprecated.py          16      2    88%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\fixtures.py           825    622    25%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\freeze_support.py      22     16    27%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\hookspec.py           113     24    79%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\logging.py            401    272    32%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\main.py               461    369    20%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\mark\__init__.py      139     92    34%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\mark\expression.py    123     73    41%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\mark\structures.py    241    149    38%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\monkeypatch.py        170    123    28%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\nodes.py              270    182    33%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\outcomes.py            88     44    50%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\pathlib.py            338    262    22%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\pytester.py           889    626    30%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\python.py             841    666    21%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\python_api.py         249    172    31%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\recwarn.py            127     80    37%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\reports.py            278    189    32%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\runner.py             299    224    25%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\store.py               34     14    59%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\terminal.py           895    743    17%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\timing.py               4      0   100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\tmpdir.py             114     69    39%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\_pytest\warning_types.py       49      2    96%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\atomicwrites\__init__.py      106     70    34%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\attr\__init__.py               27      0   100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\attr\_cmp.py                   55     45    18%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\attr\_compat.py                91     44    52%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\attr\_config.py                 9      4    56%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\attr\_funcs.py                 94     82    13%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\attr\_make.py                 946    365    61%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\attr\_next_gen.py              30     22    27%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\attr\_version_info.py          36     17    53%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\attr\converters.py             44     35    20%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\attr\exceptions.py             18      4    78%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\attr\filters.py                15      9    40%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\attr\setters.py                27     18    33%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\attr\validators.py            116     55    53%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\importlib_metadata\__init__.py 339    195    42%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\importlib_metadata\_adapters.py  31     20    35%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\importlib_metadata\_collections.py  9      3    67%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\importlib_metadata\_compat.py   18      0   100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\importlib_metadata\_functools.py  11      0   100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\importlib_metadata\_itertools.py  13     11    15%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\importlib_metadata\_meta.py    11      0   100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\importlib_metadata\_text.py    24      9    62%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\iniconfig\__init__.py         122     99    19%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\pluggy\__init__.py              8      2    75%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\pluggy\_tracing.py             41     30    27%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\pluggy\_version.py              1      0   100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\pluggy\callers.py             122    102    16%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\pluggy\hooks.py               175    127    27%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\pluggy\manager.py             195    152    22%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py\__init__.py                 14      6    57%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py\_error.py                   52     38    27%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py\_path\__init__.py            0      0   100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py\_path\common.py            278    208    25%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py\_path\local.py             693    588    15%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py\_vendored_packages\__init__.py  0      0   100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py\_vendored_packages\apipkg\__init__.py 151     55    64%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py\_vendored_packages\apipkg\version.py  1      0   100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py\_version.py                  1      0   100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\pytest\__init__.py             60      0   100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\pytest\collect.py              21      5    76%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\typing_extensions.py         1250    983    21%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\zipp.py                       117     75    36%
leap.py                                                                                      8      3    62%
test_leap.py                                                                                15      0   100%
---------------------------------------------------------------------------------------------------------
TOTAL                                                                                    16945  11913    30%
PS C:\Users\tguyo\Documents\in_class_3> coverage report -m
Name                                                                                    Stmts   Miss  Cover  Missing
```

Output of Coverage.py report. Only 62% percent of the origin file was tested, so tests need to be added to cover more.

C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\pluggy\manager.py	195	152	0	22%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py__init__.py	14	6	0	57%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py_error.py	52	38	0	27%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py_path__init__.py	0	0	0	100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py_path\common.py	278	208	0	25%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py_path\local.py	693	588	0	15%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py_vendored_packages__init__.py	0	0	0	100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py_vendored_packages\apipkg__init__.py	151	55	0	64%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py_vendored_packages\apipkg\version.py	1	0	0	100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\py_version.py	1	0	0	100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\pytest__init__.py	60	0	0	100%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\pytest\collect.py	21	5	0	76%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\typing_extensions.py	1250	983	0	21%
C:\Users\tguyo\AppData\Roaming\Python\Python37\site-packages\zipp.py	117	75	0	36%
leap.py	8	1	0	88%
test_leap.py	19	0	0	100%
Total	16949	11911	59	30%

Output of HTML Coverage. Now with more tests added we have 88% percent coverage of cases in the original file.

Output of Pytest-cov. This is a summary report of all test cases and coverage. With 88% percent coverage, more test cases need to be developed, but it might not be possible due to the logic inside the leap,py, which might reveal superfluous code.