

1. FIND THE NUMBER

Evidence of code coverage and achieving code coverage. (96%)

The screenshot shows an IDE with two files open: `findNumberTest.py` and `findNumber.py`. The `findNumberTest.py` file contains several test cases for the `findNumber` module. The `findNumber.py` file contains the `findNumber` function and its associated logic. The Command Prompt window displays the output of running the tests and the coverage report.

```

1 import unittest
2 import findNumber
3
4 class FindNumberTest(unittest.TestCase):
5
6     def testUserGuessFirstTry(self):
7         expectedMsg = "Congrats!!!! you won"
8         result = findNumber.findNumber(15, 15)
9         print("result:\n"+result)
10        self.assertEqual(result, expectedMsg)
11
12    def testGivesLowerNumber(self):
13        expectedMsg = "Sorry, too low, attempt: "
14        result = findNumber.findNumber(25, 5)
15        print("result:\n"+result)
16        self.assertEqual(result, expectedMsg)
17
18    def testGivesHigherNumber(self):
19        expectedMsg = "Sorry too high attempt: "
20        result = findNumber.findNumber(10, 30)
21        print("result:\n"+result)
22        self.assertEqual(result, expectedMsg)
23
24    def testValidateGuessInput(self):
25        input = findNumber.validateGuessInput("5")
26        self.assertIsInstance(input, int)
27
28    def testValidateIncrements(self):
29        i = 10
30        i = findNumber.incrementNumTries(1)
31        self.assertEqual(1, i)
32    def testValidateSavingLogs(self):
33        findNumber.validateSavingLogs()

```

The Command Prompt window shows the following output:

```

Sorry too high attempt:
.result:
Sorry, too low, attempt:
.result:
Congrats!!!! you won
-----
Ran 3 tests in 0.009s
OK
C:\Users\chris\Desktop\MCC\Segundo Semestre\Diseno\Python>coverage report
Name                               Stmts   Miss  Cover
-----
findNumber.py                       36      8    78%
findNumberTest.py                   27      5    81%
TOTAL                               63     13    79%
C:\Users\chris\Desktop\MCC\Segundo Semestre\Diseno\Python>coverage run findNumberTest.py
28
.result:
Sorry too high attempt:
.result:
Sorry, too low, attempt:
.result:
Congrats!!!! you won
..C:\Users\chris\Desktop\MCC\Segundo Semestre\Diseno\Python\findNumberTest.py:31: DeprecationWarning: Please use assertEqual
qual instead.
  self.assertEqual(i, 11)
..C:\Users\chris\Desktop\MCC\Segundo Semestre\Diseno\Python\findNumber.py:52: ResourceWarning: unclosed file <_io.TextIOWa
rapper name='D:\GuessingSteps.txt' mode='w' encoding='cp1252'>
  print(logs, file=open(path, 'w'))
ResourceWarning: Enable tracemalloc to get the object allocation traceback
-----
Ran 6 tests in 0.015s
OK
C:\Users\chris\Desktop\MCC\Segundo Semestre\Diseno\Python>coverage report
Name                               Stmts   Miss  Cover
-----
findNumber.py                       36      3    92%
findNumberTest.py                   33      0   100%
TOTAL                               69      3    96%
C:\Users\chris\Desktop\MCC\Segundo Semestre\Diseno\Python>

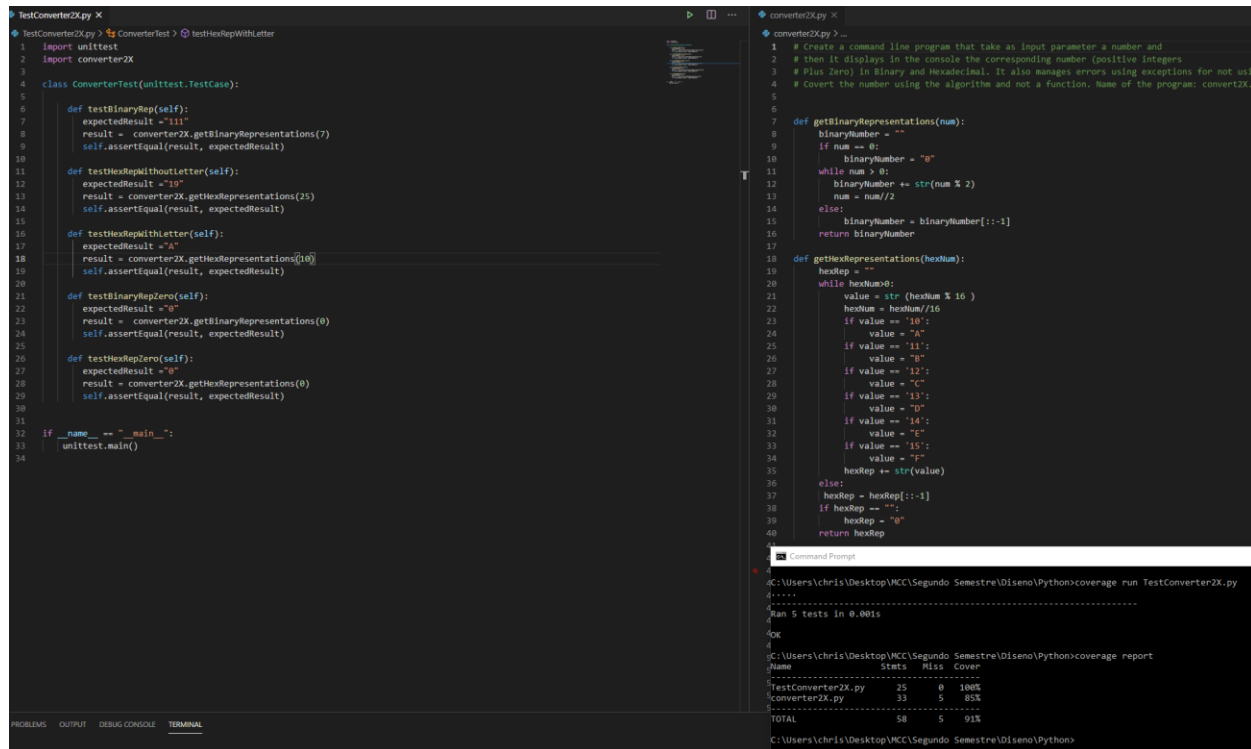
```

Pep8



2. CONVERTER

Evidence of code coverage and achieving code coverage. (91%)



```
testConverter2X.py
1 import unittest
2 import converter2X
3
4 class ConverterTest(unittest.TestCase):
5
6     def testBinaryRep(self):
7         expectedResult = "111"
8         result = converter2X.getBinaryRepresentations(7)
9         self.assertEqual(result, expectedResult)
10
11     def testHexRepWithoutLetter(self):
12         expectedResult = "19"
13         result = converter2X.getHexRepresentations(25)
14         self.assertEqual(result, expectedResult)
15
16     def testHexRepWithLetter(self):
17         expectedResult = "A"
18         result = converter2X.getHexRepresentations(10)
19         self.assertEqual(result, expectedResult)
20
21     def testBinaryRepZero(self):
22         expectedResult = "0"
23         result = converter2X.getBinaryRepresentations(0)
24         self.assertEqual(result, expectedResult)
25
26     def testHexRepZero(self):
27         expectedResult = "0"
28         result = converter2X.getHexRepresentations(0)
29         self.assertEqual(result, expectedResult)
30
31
32 if __name__ == "__main__":
33     unittest.main()
34
```

```
converter2X.py
1 # Create a command line program that take as input parameter a number and
2 # then it displays in the console the corresponding number (positive integers
3 # Plus Zero) in Binary and Hexadecimal. It also manages errors using exceptions for not using
4 # Convert the number using the algorithm and not a function. Name of the program: convert2X.py
5
6
7 def getBinaryRepresentations(num):
8     binaryNumber = ""
9     if num == 0:
10         binaryNumber = "0"
11     while num > 0:
12         binaryNumber += str(num % 2)
13         num = num // 2
14     else:
15         binaryNumber = binaryNumber[::-1]
16     return binaryNumber
17
18 def getHexRepresentations(hexNum):
19     hexRep = ""
20     while hexNum > 0:
21         value = str(hexNum % 16)
22         hexNum = hexNum // 16
23         if value == "10":
24             value = "A"
25         elif value == "11":
26             value = "B"
27         elif value == "12":
28             value = "C"
29         elif value == "13":
30             value = "D"
31         elif value == "14":
32             value = "E"
33         elif value == "15":
34             value = "F"
35         hexRep += str(value)
36     else:
37         hexRep = hexRep[::-1]
38     if hexRep == "-":
39         hexRep = "0"
40     return hexRep

```

```

C:\Users\chris\Desktop\VMCC\Segundo Semestre\Diseno\Python>coverage run TestConverter2X.py
4.....
4
Ran 5 tests in 0.001s
4
C:\Users\chris\Desktop\VMCC\Segundo Semestre\Diseno\Python>coverage report
Name                               Stmts   Miss  Cover
---
testConverter2X.py                   25     0   100%
converter2X.py                       33     5    85%
---
TOTAL                               58     5    91%
C:\Users\chris\Desktop\VMCC\Segundo Semestre\Diseno\Python>

```

Pep 8

```
TestConverter2X.py •
TestConverter2X.py > ConverterTest > testBinaryRep
1 import unittest
2 import converter2X
3
4
5 class ConverterTest(unittest.TestCase):
6     def testBinaryRep(self):
7         expectedResult = "111"
8         result = converter2X.getBinaryRepresentations(7)
9         self.assertEqual(result, expectedResult)
10
11     def testHexRepWithoutLetter(self):
12         expectedResult = "19"
13         result = converter2X.getHexRepresentations(25)
14         self.assertEqual(result, expectedResult)
15
16     def testHexRepWithLetter(self):
17         expectedResult = "A"
18         result = converter2X.getHexRepresentations(10)
19         self.assertEqual(result, expectedResult)
20
21     def testBinaryRepZero(self):
22         expectedResult = "0"
23         result = converter2X.getBinaryRepresentations(0)
24         self.assertEqual(result, expectedResult)
25
26     def testHexRepZero(self):
27         expectedResult = "0"
28         result = converter2X.getHexRepresentations(0)
29         self.assertEqual(result, expectedResult)
30
31
32 if __name__ == "__main__":
33     unittest.main()
34
35
```

Warning message because of trailing whitespaces.
pycodestyle(W291).

There should be no whitespace after the final character in a line.

Anti-pattern

Note: The `•` character represents a space.

```
def first_func():
    # The line below has two spaces after its final character
    pass••
```

3. Find Words.

Evidence of code coverage and achieving code coverage. (100%)

```
TestFindWords.py X
TestFindWords.py > ConverterTest
1 import unittest
2 import findWords
3
4 class ConverterTest(unittest.TestCase):
5
6     def testFindOneWord(self):
7         expectedResult = "Word For exists: 1 times"
8         #wordsToFind = "equivocarme,Fuerza,Chris,Test,Tarea,senti"
9         wordsToFind = "For"
10        wordsToFind = wordsToFind.split(',')
11        with open('lullaby - The cure.txt', 'r') as file:
12            data = file.read().replace('\n', ' ')
13        wordsInText = data.split(' ')
14        result = findWords.findWords(wordsToFind, wordsInText)
15        self.assertEqual(result.replace('\n', ''), expectedResult)
16
17    def testFindTwoWords(self):
18        expectedResult = "Word For exists: 1 times Word for exists: 3 times"
19        wordsToFind = "For,for"
20        wordsToFind = wordsToFind.split(',')
21        with open('lullaby - The cure.txt', 'r') as file:
22            data = file.read().replace('\n', ' ')
23        wordsInText = data.split(' ')
24        result = findWords.findWords(wordsToFind, wordsInText)
25        self.assertEqual(result.replace('\n', ''), expectedResult)
26
27    def testFindOneWordSpanish(self):
28        expectedResult = "Word equivocarme exists: 1 times"
29        wordsToFind = "equivocarme"
30        wordsToFind = wordsToFind.split(',')
31        with open('Fuerza Natural - Cerati.txt', 'r') as file:
32            data = file.read().replace('\n', ' ')
33        wordsInText = data.split(' ')
34        result = findWords.findWords(wordsToFind, wordsInText)
35        self.assertEqual(result.replace('\n', ''), expectedResult)
36
37    def testFindTwoWordsSpanish(self):
38        expectedResult = "Word equivocarme exists: 1 times Word natural exists: 2 times"
39        wordsToFind = "equivocarme,natural"
40        wordsToFind = wordsToFind.split(',')
41        with open('Fuerza Natural - Cerati.txt', 'r') as file:
42            data = file.read().replace('\n', ' ')
43        wordsInText = data.split(' ')
44        result = findWords.findWords(wordsToFind, wordsInText)
45        self.assertEqual(result.replace('\n', ''), expectedResult)
46
47
48
49
50 if __name__ == "__main__":
51     unittest.main()
```

```
findWords.py X
findWords.py > ...
1 # Create a program that parses a file given
2 # as parameter and counts the number of
3 # occurrences for a list of words identified
4 # in the file. The identification is sensitive
5 # case. The program will accept the words
6 # to test as arguments. English or Spanish.
7 # Name of the program: findWords.py

Command Prompt
exists: 0 times
Word Tarea
exists: 0 times
Word senti
exists: 3 times
....
Ran 4 tests in 0.002s

OK

C:\Users\chris\Desktop\MCC\Segundo Semestre\Diseno\Python>coverage report
Name Stmts Miss Cover
-----
TestFindWords.py 41 0 100%
findWords.py 24 0 100%
TOTAL 65 0 100%

C:\Users\chris\Desktop\MCC\Segundo Semestre\Diseno\Python>

31 for i in range(len(wordsToFind)):
32     count = 0
33     results += " Word " + wordsToFind[i]
34     for j in range(len(wordsInText)):
35         if wordsToFind[i] == wordsInText[j]:
36             count = count + 1
37     results += " exists: " + str(count) + " times\n"
38     return results
39
```

Pep8

```
TestFindWords.py X
TestFindWords.py >...
1 import unittest
2 import findWords
3
4
5 class ConverterTest(unittest.TestCase):
6     def testFindOneWord(self):
7         expectedResult = " Word For exists: 1 times"
8         wordsToFind = "equivocarme,Fuerza,Natural,Test,Tarea,senti"
9         wordsToFind = wordsToFind.split(',')
10        wordsToFind = wordsToFind.split(',')
11        with open('lullaby - The cure.txt', 'r') as file:
12            data = file.read().replace('\n', ' ')
13        wordsInText = data.split(' ')
14        result = findWords.findWords(wordsToFind, wordsInText)
15        self.assertEqual(result.replace('\n', ''), expectedResult)
16
17    def testFindTwoWords(self):
18        expectedResult = " Word For exists: 1 times Word for exists: 3 times"
19        wordsToFind = "For,for"
20        wordsToFind = wordsToFind.split(',')
21        with open('lullaby - The cure.txt', 'r') as file:
22            data = file.read().replace('\n', ' ')
23        wordsInText = data.split(' ')
24        result = findWords.findWords(wordsToFind, wordsInText)
25        self.assertEqual(result.replace('\n', ''), expectedResult)
26
27    def testFindOneWordSpanish(self):
28        expectedResult = " Word equivocarme exists: 1 times"
29        wordsToFind = "equivocarme"
30        wordsToFind = wordsToFind.split(',')
31        with open('Fuerza Natural - Cerati.txt', 'r') as file:
32            data = file.read().replace('\n', ' ')
33        wordsInText = data.split(' ')
34        result = findWords.findWords(wordsToFind, wordsInText)
35        self.assertEqual(result.replace('\n', ''), expectedResult)
36
37    def testFindTwoWordsSpanish(self):
38        expectedResult = " Word equivocarme exists: 1 times Word natural exists: 2 times"
39        wordsToFind = "equivocarme,natural"
40        wordsToFind = wordsToFind.split(',')
41        with open('Fuerza Natural - Cerati.txt', 'r') as file:
42            data = file.read().replace('\n', ' ')
43        wordsInText = data.split(' ')
44        result = findWords.findWords(wordsToFind, wordsInText)
45        self.assertEqual(result.replace('\n', ''), expectedResult)
46
47
48 if __name__ == "__main__":
49     unittest.main()
```

indentation is not a multiple of fourpycodestyle(E111)

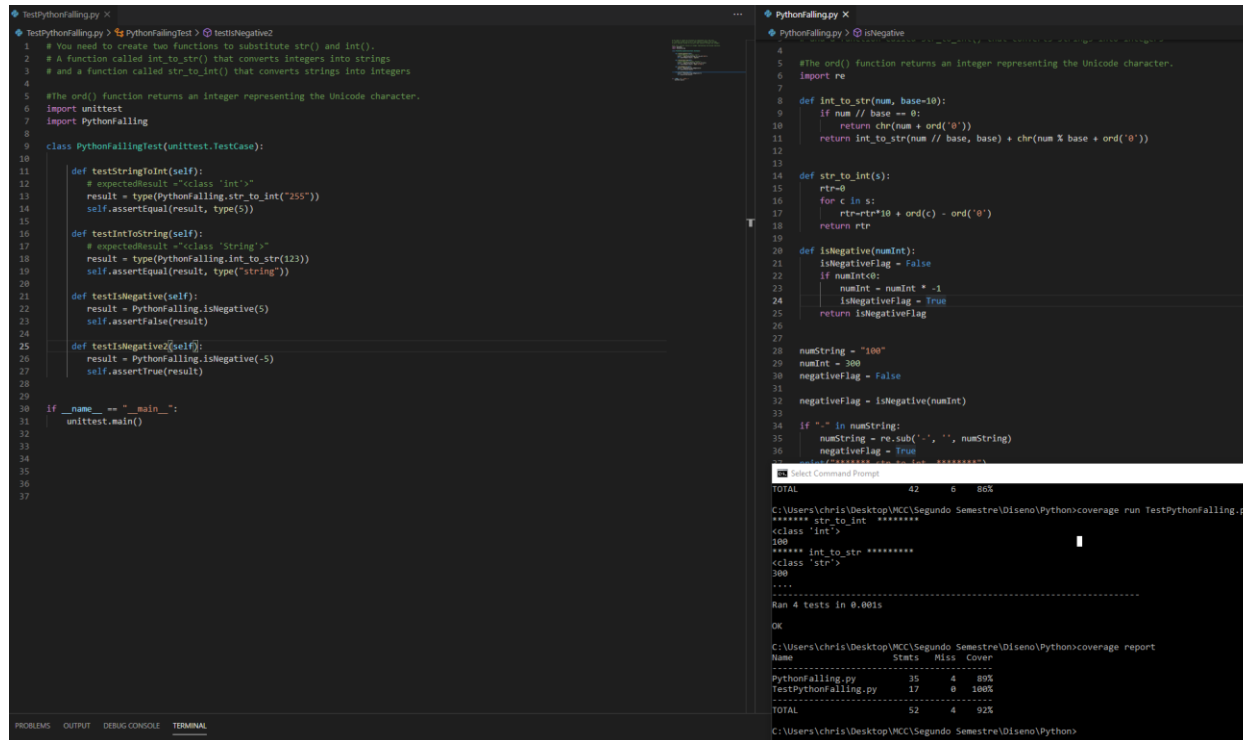
missing whitespace after
' ,pycodestyle(E231)

block comment should start with '# 'pycodestyle(E265)

```
TestFindWords.py
TestFindWords.py >...
1 import unittest
2 import findWords
3
4
5 class ConverterTest(unittest.TestCase):
6     def testFindOneWord(self):
7         expectedResult = " Word For exists: 1 times"
8         # wordsToFind = "equivocarme,Fuerza,Chris,Test,Tarea,senti"
9         wordsToFind = "For"
10        wordsToFind = wordsToFind.split(',')
11        with open('lullaby - The cure.txt', 'r') as file:
12            data = file.read().replace('\n', ' ')
13        wordsInText = data.split(' ')
14        result = findWords.findWords(wordsToFind, wordsInText)
15        self.assertEqual(result.replace('\n', ''), expectedResult)
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17    def testFindTwoWords(self):
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23        wordsInText = data.split(' ')
24        result = findWords.findWords(wordsToFind, wordsInText)
25        self.assertEqual(result.replace('\n', ''), expectedResult)
26
27    def testFindOneWordSpanish(self):
28        expectedResult = " Word equivocarme exists: 1 times"
29        wordsToFind = "equivocarme"
30        wordsToFind = wordsToFind.split(',')
31        with open('Fuerza Natural - Cerati.txt', 'r') as file:
32            data = file.read().replace('\n', ' ')
33        wordsInText = data.split(' ')
34        result = findWords.findWords(wordsToFind, wordsInText)
35        self.assertEqual(result.replace('\n', ''), expectedResult)
36
37    def testFindTwoWordsSpanish(self):
38        expectedResult = " Word equivocarme exists: 1 times Word natural exists: 2 times"
39        wordsToFind = "equivocarme,natural"
40        wordsToFind = wordsToFind.split(',')
41        with open('Fuerza Natural - Cerati.txt', 'r') as file:
42            data = file.read().replace('\n', ' ')
43        wordsInText = data.split(' ')
44        result = findWords.findWords(wordsToFind, wordsInText)
45        self.assertEqual(result.replace('\n', ''), expectedResult)
46
47
48 if __name__ == "__main__":
49     unittest.main()
50
```

4. Python Failing

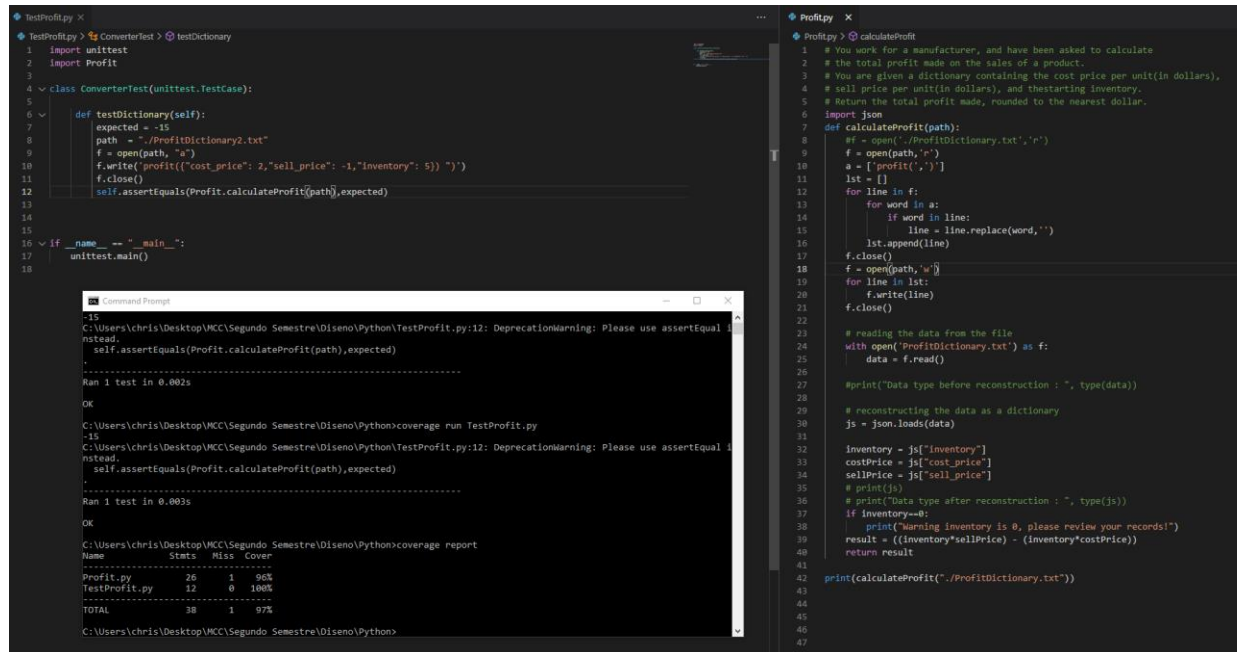
Evidence of code coverage and achieving code coverage. (92%)



```
testPythonFalling.py
1 # You need to create two functions to substitute str() and int().
2 # A function called int_to_str() that converts integers into strings
3 # and a function called str_to_int() that converts strings into integers
4
5 #The ord() function returns an integer representing the Unicode character.
6 import unittest
7 import PythonFalling
8
9 class PythonFallingTest(unittest.TestCase):
10
11     def testStringToInt(self):
12         # expectedResult = "<class 'int'>"
13         result = type(PythonFalling.str_to_int("255"))
14         self.assertEqual(result, type(5))
15
16     def testIntToString(self):
17         # expectedResult = "<class 'string'>"
18         result = type(PythonFalling.int_to_str(123))
19         self.assertEqual(result, type("string"))
20
21     def testIsNegative(self):
22         result = PythonFalling.isNegative(5)
23         self.assertFalse(result)
24
25     def testIsNegative2(self):
26         result = PythonFalling.isNegative(-5)
27         self.assertTrue(result)
28
29
30 if __name__ == "__main__":
31     unittest.main()
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5. Profit

Evidence of code coverage and achieving code coverage. (97%)



```
testProfit.py
1 import unittest
2 import Profit
3
4 class ConverterTest(unittest.TestCase):
5
6     def testDictionary(self):
7         expected = -15
8         path = './ProfitDictionary2.txt'
9         f = open(path, "a")
10        f.write('{"cost_price": 2, "sell_price": -1, "inventory": 5}')
11        f.close()
12        self.assertEqual(Profit.calculateProfit(path), expected)
13
14
15
16 if __name__ == "__main__":
17     unittest.main()
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Profit.py
1 # You work for a manufacturer, and have been asked to calculate
2 # the total profit made on the sales of a product.
3 # You are given a dictionary containing the cost price per unit(in dollars),
4 # sell price per unit(in dollars), and the starting inventory.
5 # Return the total profit made, rounded to the nearest dollar.
6 import json
7
8 def calculateProfit(path):
9     # f = open('./ProfitDictionary.txt', 'r')
10    f = open(path, 'r')
11    a = ['profit','.']
12    lst = []
13    for line in f:
14        for word in a:
15            if word in line:
16                line = line.replace(word, '')
17            lst.append(line)
18    f.close()
19    f = open(path, 'w')
20    for line in lst:
21        f.write(line)
22    f.close()
23
24    # reading the data from the file
25    with open('ProfitDictionary.txt') as f:
26        data = f.read()
27
28    #print("Data type before reconstruction : ", type(data))
29
30    # reconstructing the data as a dictionary
31    js = json.loads(data)
32
33    inventory = js["inventory"]
34    costPrice = js["cost_price"]
35    sellPrice = js["sell_price"]
36
37    # print(js)
38    # print("Data type after reconstruction : ", type(js))
39    if inventory==0:
40        print("Warning inventory is 0, please review your records!")
41    result = ((inventory*sellPrice) - (inventory*costPrice))
42    return result
43
44 print(calculateProfit("./ProfitDictionary.txt"))
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Command Prompt
C:\Users\chris\Desktop\VMCC\Segundo Semestre\Diseno\Python>TestProfit.py:12: DeprecationWarning: Please use assertEqual instead.
self.assertEqual(Profit.calculateProfit(path), expected)
.....
Ran 1 test in 0.002s
OK
C:\Users\chris\Desktop\VMCC\Segundo Semestre\Diseno\Python>coverage run TestProfit.py
C:\Users\chris\Desktop\VMCC\Segundo Semestre\Diseno\Python>TestProfit.py:12: DeprecationWarning: Please use assertEqual instead.
self.assertEqual(Profit.calculateProfit(path), expected)
.....
Ran 1 test in 0.003s
OK
C:\Users\chris\Desktop\VMCC\Segundo Semestre\Diseno\Python>coverage report
Name          Stats  Miss  Cover
-----
Profit.py       26      1    96%
TestProfit.py   12      0   100%
TOTAL          38      1    97%
C:\Users\chris\Desktop\VMCC\Segundo Semestre\Diseno\Python>
```

Pep8 were like previous one's findings. Here is the corrected version.

Pep8

Expected 2 lines, found only 1

Indentation not a multiple of 4

White space around operator.

Extra lines before statement.

```
TestProfit.py X
TestProfit.py > ConverterTest
1 import unittest
2 import Profit
3
4
5 class ConverterTest(unittest.TestCase):
6     def testDictionary(self):
7         expected = -15
8         path = "./ProfitDictionary2.txt"
9         f = open(path, "a")
10        f.write('profit({"cost_price": 2,"sell_price": -1,"inventory": 5}) ')
11        f.close()
12        self.assertEqual(Profit.calculateProfit(path),expected)
13
14
15 if __name__ == "__main__":
16     unittest.main()
17
```

6. Agenda (99%)

```
Agenda.py
TestAgenda.py X
...
Agenda.py X
Agenda.py > ...

12 p1.addPerson()
13 expectedResult = "Jorge,jorge@email.test,32,Jamaica"
14 with open('D:\\myAgenda.txt', 'n') as file:
15     data = file.read().replace('\n', '')
16     self.assertEqual(data, expectedResult)
17
18 def testGetAllRecords(self):
19     open('D:\\myAgenda.txt', 'w').close()
20     p1 = Agenda.Person("Jorge","jorge@email.test","32", "Jamaica")
21     p1.addPerson()
22     p1 = Agenda.Person("Miguel","miguel@email.test","17", "Honduras")
23     p1.addPerson()
24     data = p1.getAllRecords()
25     expectedResult = "Jorge,jorge@email.test,32,JamaicaMiguel,miguel@email.test,17,Honduras"
26     self.assertEqual(data.replace('\n', ''), expectedResult)
27
28 def testSearchRecords(self):
29     p1 = Agenda.Person("Jorge","jorge@email.test","32", "Jamaica")
30     expectedResult = "Jorge,jorge@email.test,32,Jamaica"
31     line = p1.searchRecord("Jorge")
32     self.assertEqual(line.replace('\n', ''), expectedResult)
33
34 def testDeleteRecord(self):
35     open('D:\\myAgenda.txt', 'w').close()
36     p1 = Agenda.Person("Jorge","jorge@email.test","32", "Jamaica")
37     p1.addPerson()
38     p1 = Agenda.Person("Jorge","jorge@email.test","32", "Jamaica")
39     expectedResult = "Jorge,jorge@email.test,32,Jamaica"

4: Return all records
C:\Users\chris\Desktop\WCC\Segundo Semestre\Diseno\Python\Agenda.py:25: ResourceWarning: unclosed file
'D:\\myAgenda.txt' mode='a' encoding='cp1252'>
print(record, file=open('D:\\myAgenda.txt', 'a'))
ResourceWarning: Enable tracemalloc to get the object allocation traceback
C:\Users\chris\Desktop\WCC\Segundo Semestre\Diseno\Python\Agenda.py:37: ResourceWarning: unclosed file
'D:\\myAgenda.txt' mode='n' encoding='cp1252'>
filn = open('D:\\myAgenda.txt').readlines()
ResourceWarning: Enable tracemalloc to get the object allocation traceback
Jorge,jorge@email.test,32,Jamaica
Miguel,miguel@email.test,17,Honduras

-----
Ran 4 tests in 0.011s

OK

C:\Users\chris\Desktop\WCC\Segundo Semestre\Diseno\Python>coverage report
Name      Stats  Miss Cover
-----
Agenda.py   35      1   97%
TestAgenda.py 36      0  100%
-----
TOTAL       71      1   99%

C:\Users\chris\Desktop\WCC\Segundo Semestre\Diseno\Python>
```

Pep 8

```
import fileinput
import time
import os

class Agenda:
    def __init__(self, name, email, age, country):
        self.name = name
        self.email = email
        self.age = age
        self.country = country

    def addPerson(self):
        record = self.name + "," + self.email + "," + self.age + "," + self.country
        if not os.path.exists("D:\\myAgenda.txt"):
            f = open(record, "D:\\myAgenda.txt", "w")
        f.write(record + "\n")
        print(record, file=open("D:\\myAgenda.txt", 'a'))

    def getAllRecords(self):
        with open("D:\\myAgenda.txt", 'r') as f:
            content = f.read()
            print(content)
            return content

    def searchRecord(self, search):
        #search = input()
        fIn = open("D:\\myAgenda.txt").readlines()
        for lines in fIn:
            if search in lines:
                print(lines)
                return lines
            else:
                #print("Nothing found! " + lines)

    def toDelete(self, toDelete):
        #toDelete = input("Which contact would you like to delete?")
        with fileinput.FileInput("D:\\myAgenda.txt", inplace=True, backup=".bak") as file:
            for line in file:
                if toDelete in line:
                    line = ''
                else:
                    print(line)
```

indentation is not a multiple of four `pycodestyle(E111)`

line too long (80 > 79 characters) `pycodestyle(E501)`

missing whitespace after ',' `pycodestyle(E231)`

Line lengths are recommended to be no greater than 79 characters. The reasoning for this comes from PEP8 itself:

Limiting the required editor window width makes it possible to have several files open side-by-side, and works well when using code review tools that present the two versions in adjacent columns.

It is fairly common for developers, especially those in closed-source projects, to change the maximum line length to 100 or 120 characters.

Additional links

- <https://www.python.org/dev/peps/pep-0008/#maximum-line-length>