

1. Hierarchy of folder NVersionTesting

This PC > Desktop > NVersionTesting		
Name	Date modified	
input	09/04/2018 15:54	
log	09/04/2018 16:57	
report	09/04/2018 16:57	
testsuite	09/04/2018 16:56	
wcfile	04/04/2018 20:44	
caseRunner	04/04/2018 21:02	
filenames	09/04/2018 15:29	
ReadMe	06/04/2018 20:04	
test1	09/04/2018 15:29	

This PC > Desktop > NVersionTesting > testsuite		
Name	Date modified	Type
cases	02/04/2018 00:45	File folder
expected	02/04/2018 00:42	File folder

2. How to use N-Version testing

2.1. Put wc programs of different versions in wcfile folder

- NVersionTesting/wcfile

2.2. Put input files in input folder

- Any input that will be counted is put in this folder

2.3. Configure cases

- NVersionTesting/testsuite/cases
- Commands can be one or more,

For example:

2.4.1. If one command is included, it should be like as follows

```
python3 wcfile/wc1.py -l -w -c -m -L input/input1.txt input/input1.txt
```

2.4.2. If more commands are included, they should be linked by & (there is space before and after & respectively)

```
python3 wcfile/wc1.py -l -w -c -m -L input/input1.txt input/input1.txt & python3 wcfile/wc2.py -l -w -c -m -L input/input1.txt input/input1.txt
```

N.B.

1. *python3* may be *python* in some environment.

2. After executing *caseRunner.py* for such case with more than one commands, different report will be generated. For example, *case1.txt* has 2 commands, its report will be split into *case1_localtime1* and *case1_localtime2*.

2.4. Put expected results in expected folder

- NVersionTesting/testsuite/expected

2.5. Executing caseRunner.py

- Use *cd* on command line to folder NVersionTesting
- Input *python3 caseRunner.py*

2.6. Checking report

- Go to NVersionTesting/report
- File format is *casenum_localtime*

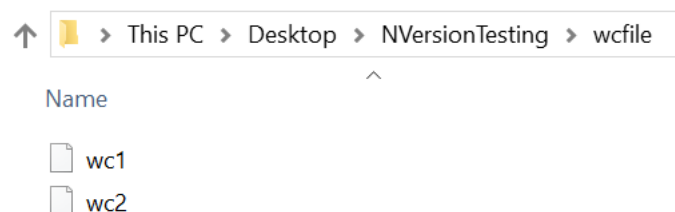
2.7. Logging

- Log is recorded in NVersionTesting/log
- File format is *log_localtime*

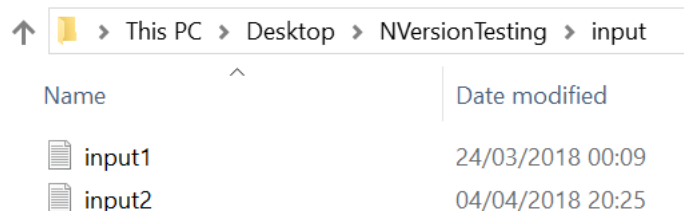
3. An example

3.1. Put wc programs of different versions(functionally-equivalent) in wcfile folder

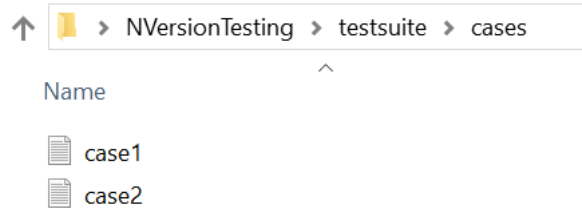
- NVersionTesting/wcfile/wc1.py
- NVersionTesting/wcfile/wc2.py



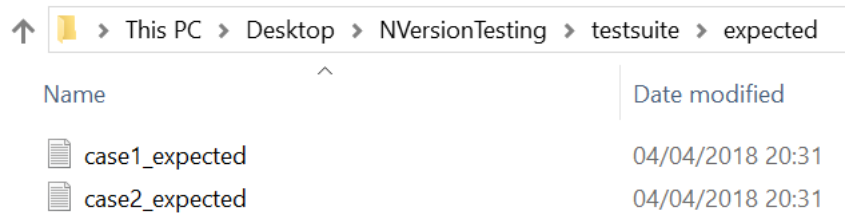
3.2. Put input files in input folder



3.3. Configure cases



3.4. Put expected results in expected folder



3.5. Executing caseRunner.py

```
Command Prompt
Microsoft Windows [Version 10.0.16299.309]
(c) 2017 Microsoft Corporation. All rights reserved.

C:\Users\Priscilla.Zhao>cd C:\Users\Priscilla.Zhao\Desktop\NVersionTesting
C:\Users\Priscilla.Zhao\Desktop\NVersionTesting>python caseRunner.py
0 1 8 8 8 input/input1.txt
0 1 13 13 13 input/input2.txt
0 2 21 21 13 total

Expected:
0 1 8 8 8 input/input1.txt
0 1 13 13 13 input/input2.txt
0 2 21 21 13 total

Comparision report is shown as follows
-----
Congratulations!
case1_20180404203804.txt is same as case1_expected.txt,you passed the testing.
-----
```

```
Command Prompt
1 13 13 13 input/input2.txt
2 21 21 13 total

Comparision report is shown as follows
-----
Congratulations!
case2_20180404203806.txt is same as case2_expected.txt,you passed the testing.
-----

1 8 8 8 input/input1.txt
1 13 13 13 input/input2.txt
2 21 21 13 total

Expected:
1 8 8 8 input/input1.txt
1 13 13 13 input/input2.txt
2 21 21 13 total

Comparision report is shown as follows
-----
Congratulations!
case2_20180404203808.txt is same as case2_expected.txt,you passed the testing.
-----

C:\Users\Priscilla.Zhao\Desktop\NVersionTesting>
```

3.6. Checking report

↑ This PC > Desktop > NVersionTesting > report

Name	Date modified
case1_20180404203804	04/04/2018 20:38
case1_20180404203805	04/04/2018 20:38
case2_20180404203806	04/04/2018 20:38
case2_20180404203808	04/04/2018 20:38

3.7. Checking log

↑ This PC > Desktop > NVersionTesting > log

Name
log_20180404203804

4. filenames.txt and test1.txt

- filenames.txt is an NUL-terminated file, which is used when command contains flag –files0-from=filenames.txt
- test1.txt which is used when command contains flag –files0-from=–