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Student ID: 202001135 Lab 5 - Static Analysis Date: 16-03-2022

Tools and Repository:

Static Analysis Tool: pylint

Github Repository: https://github.com/rishabh1005/Algorithmic-Toolbox

At first, I clone the github repository and installed pylint.

```
C:\Users\student>git clone https://github.com/TheAlgorithms/Python.git
Cloning into 'Python'...
remote: Enumerating objects: 16064, done.
remote: Counting objects: 1608 (94/94), done.
remote: Counting objects: 100% (94/94), done.
remote: Counting objects: 100% (82/82), done.
remote: Contral 16064 (delta 26), reused 55 (delta 11), pack-reused 15970
Receiving objects: 100% (16064/16064), 13.21 MiB | 8.86 MiB/s, done.
Resolving deltas: 100% (94/99/9499), done.

C:\Users\student>pip install pylint
Defaulting to user installation because normal site-packages is not writeable
Requirement already satisfied: pylint in c:\users\student\appdata\roaming\python\python310\site-packages (2.14.5)
Requirement already satisfied: polyint in c:\users\student\appdata\roaming\python\python310\site-packages (from pylint) (2.5.2)
Requirement already satisfied: colorama>=0.4.5 in c:\users\student\appdata\roaming\python\python310\site-packages (from pylint) (0.4.5)
Requirement already satisfied: colorama>=0.4.5 in c:\users\student\appdata\roaming\python\python310\site-packages (from pylint) (0.4.5)
Requirement already satisfied: colorama>=0.4.5 in c:\users\student\appdata\roaming\python\python310\site-packages (from pylint) (0.4.5)
Requirement already satisfied: dill>=0.2 in c:\users\student\appdata\roaming\python\python310\site-packages (from pylint) (0.3.5,1)
Requirement already satisfied: astroid<=2.12.0 dev0,>=2.11.6 in c:\users\student\appdata\roaming\python\python310\site-packages (from pylint) (0.3.5,1)
Requirement already satisfied: astroid<=2.12.0 dev0,>=2.11.6 in c:\users\student\appdata\roaming\python\python310\site-packages (from pylint) (0.3.5,1)
Requirement already satisfied: sicroid<=2.12.0 dev0,>=2.11.6 in c:\users\student\appdata\roaming\python\python310\site-packages (from pylint) (0.3.5,1)
Requirement already satisfied: sicroid<=2.12.0 dev0,>=2.11.6 in c:\users\student\appdata\roaming\python\python310\site-packages (from pylint) (0.3.5,1)
Requirement already satisfied: sicroid<=2.12.0 dev0,>=2.11.6 in c:\users\studen
```

Performing static Analysis and error understanding

1. https://github.com/rishabh1005/Algorithmic-Toolbox/blob/master/week2_algorithmic_warmup/5 fibonacci number again/fibonacci huge.py

Tool Output:

```
Extracestated transplant to Majorithmic Toolbookweek2 algorithmic warmup\5 fibonacci_number_again/fibonacci_huge.py

Algorithmic-Toolbookweek2 algorithmic warmup\5 fibonacci_mumber_again/fibonacci_huge.py:20:8: C0003: Trailing whitespace (Irailing-whitespace)

Algorithmic Toolbookweek2 algorithmic warmup\5 fibonacci_mumber_again/fibonacci_huge.py:18:8: C0014: Missing module docstring (missing-module-docstring)

Algorithmic Toolbookweek2 algorithmic warmup\5 fibonacci_mumber_again/fibonacci_huge.py:18:8: W0105: String statement has no effect (pointless-string-statement)

Algorithmic Toolbookweek2 algorithmic warmup\5 fibonacci_mumber_again/fibonacci_huge.py:18:8: C0105: Argument name "m" doesn't conform to snake_case naming style (invalid-name)

Algorithmic Toolbookweek2 algorithmic warmup\5 fibonacci_mumber_again/fibonacci_huge.py:10:24: C0003: Argument name "m" doesn't conform to snake_case naming style (invalid-name)

Algorithmic Toolbookweek2 algorithmic warmup\5 fibonacci_mumber_again/fibonacci_huge.py:10:24: C0003: Appument name "m" doesn't conform to snake_case naming style (invalid-name)

Algorithmic Toolbookweek2 algorithmic warmup\5 fibonacci_mumber_again/fibonacci_huge.py:21:8: C0003: Variable name "m" doesn't conform to snake_case naming style (invalid-name)

Algorithmic Toolbookweek2 algorithmic warmup\6 fibonacci_number_again/fibonacci_huge.py:21:8: C0003: Variable name "m" doesn't conform to snake_case naming style (invalid-name)

Algorithmic Toolbookweek2 algorithmic warmup\6 fibonacci_number_again/fibonacci_huge.py:21:8: C0003: Variable name "m" doesn't conform to snake_case naming style (invalid-name)

Algorithmic Toolbookweek2 algorithmic warmup\6 fibonacci_number_again/fibonacci_huge.py:27:8: C0103: Variable name "m" doesn't conform to snake_case naming style (invalid-name)

Algorithmic Toolbookweek2 algorithmic warmup\6 fibonacci_number_again/fibonacci_huge.py:27:8: C0103: W1003-c0103: Variable name "m" doesn't conform to snake_case naming style (invalid-name)

Algorithmic Toolbookweek2 algo
```

2. https://github.com/rishabh1005/Algorithmic-Toolbox/blob/master/week3_greedy_algorithms/6 maximum number of prizes/different summands.py

Tool Output:

3. https://github.com/rishabh1005/Algorithmic-Toolbox/blob/master/week5_dynamic_programming1/5_longest_common_subsequence_of_three_sequences/lcs3.py

Tool Output:

```
C. Ussers\student>pylini \ \Algorithmic-Toolbox\weekS_dynamic_programming1\S_longest_common_subsequence_of_three_sequences\lcs3.py

Algorithmic-Toolbox\weekS_dynamic_programming1\S_longest_common_subsequence_of_three_sequences\lcs3.py:2:14: \ (0383: Trailing whitespace (trailing-whitespace)
Algorithmic-Toolbox\weekS_dynamic_programming1\S_longest_common_subsequence_of_three_sequences\lcs3.py:2:13: \ (0383: Trailing whitespace (trailing-whitespace)
Algorithmic-Toolbox\weekS_dynamic_programming1\S_longest_common_subsequence_of_three_sequences\lcs3.py:10:59: \ (0383: Trailing whitespace (trailing-whitespace)
Algorithmic-Toolbox\weekS_dynamic_programming1\S_longest_common_subsequence_of_three_sequences\lcs3.py:16:48: \ (0383: Trailing whitespace (trailing-whitespace)
Algorithmic-Toolbox\weekS_dynamic_programming1\S_longest_common_subsequence_of_three_sequences\lcs3.py:10:48: \ (0383: Trailing whitespace (trailing-whitespace)
Algorithmic-Toolbox\weekS_dynamic_programming1\S_longest_common_subsequence_of_three_sequences\lcs3.py:10:61:68: \ (0383: Trailing whitespace (trailing-whitespace)
Algorithmic-Toolbox\weekS_dynamic_programming1\S_longest_common_subsequence_of_three_sequences\lcs3.py:10:61:68: \ (0383: Trailing whitespace)
Algorithmic-Toolbox\weekS_dynamic_programming1\S_longest_common_subsequence_of_three_sequences\lcs3.py:10:61:68:08:81: Trailing whitespace (trailing-whitespace)
Algorithmic-Toolbox\weekS_dynamic_programming1\S_longest_common_subsequence_of_three_sequences\lcs3.py:10:61:68:08:81: Trailing whitespace (trailing-whitespace)
Al
```

4. https://github.com/rishabh1005/Algorithmic-Toolbox/blob/master/week6_dynamic_programming2/2_partitioning_souvenirs/partition3.py

Tool Output:

5. https://github.com/rishabh1005/Algorithmic-Toolbox/blob/master/week6 dynamic progra mming2/3 maximum value of an arithmetic expression/placing parentheses.py

Tool Output:

```
C.Vusers'studentypylint .Algorithmic-Toolbox\week6_dynamic_programming2\3_maximum_value_of_an_arithmetic_expression\placing_parentheses.py

Algorithmic-Toolbox\meek6_dynamic_programming2\3_maximum_value_of_an_arithmetic_expression\placing_parentheses.py:10: 60116: Nissing_module_docstring_(alssing_module_docstring)

Algorithmic-Toolbox\week6_dynamic_programming2\3_maximum_value_of_an_arithmetic_expression\placing_parentheses.py:210: 60181: Missing_module_docstring_old_size_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parenthese_parent
```

Understanding of errors:

- W0621: Name redefinition from outerscope. This mistake indicates that a global variable with the same name as a local variable. By doing this, the global version of the variable is hidden and the local scope is changed to use the local version of the variable.
- 2. **W0611**: This happens when unutilized shipments When any modules or files are loaded but not used.
- 3. **C0303**: This occurs when there is an empty area before a new line and at the conclusion of a line.
- 4. **C0103**: Variable's naming convention does not conform to snake_case The defined variable is not named using the snake_case convention, as indicated by this mistake.
- 5. **C0321**: A string that contains multiple statements. This indicates that a line contains numerous lines. This is not a good practice because lines with only one sentence will make the code easier to understand.