Software Engineering

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Lab 5

Group-6

Repository Link:-

https://github.com/AtsushiSakai/PythonRobotics

In the following examples I have used the **Pylint** tool of python for checking and verification of errors in codes.

Code-1:- Link ;-

https://github.com/AtsushiSakai/PythonRobotics/blob/mast er/PathTracking/lqr_speed_steer_control/lqr_speed_steer control.py

Code-1 Error Output

```
Cibers/Studento 10.0.10044.1226]
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Cibers/Studento desktop

Cibers/Studento desktop

Cibers/Studento desktop

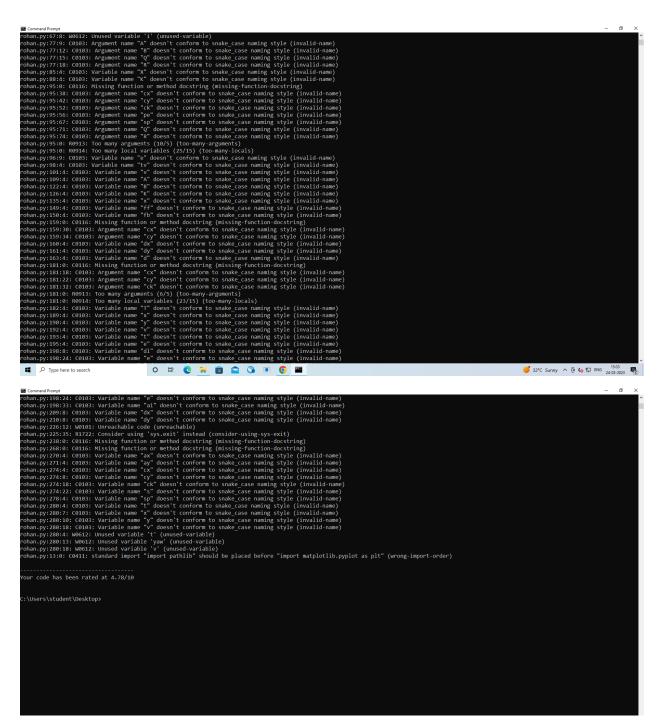
Cibers/Studento desktop

Cibers/Studento desktop

Cibers/Studento pp install pylint

Cibers/Studento pp install

Cibers/Stude
```



Code -1 analysis

Here is a breakdown of the messages:

C0304: Final newline missing: This message indicates that the last line of the file is not empty. It's good practice to have an empty line at the end of a file.

E0401: Unable to import 'PathPlanning.CubicSpline': This message indicates that there is an import error when trying to import a module named 'PathPlanning.CubicSpline'.

C0413: Import "from PathPlanning.CubicSpline import cubic_spline_planner" should be placed at the top of the module: This message indicates that the import statement should be placed at the top of the module, before other code.

C0103: Naming convention violation: This message indicates that a variable, argument, or constant name doesn't conform to the recommended naming style. By default, pylint expects variable names to be in snake_case and constant names to be in UPPER CASE.

R0903: Too few public methods: This message indicates that a class has too few public methods.

C0115: Missing class docstring: This message indicates that there is no docstring for a class.

C0116: Missing function or method docstring: This message indicates that there is no docstring for a function or method.

R1730: Consider using 'delta = min(delta, max_steer)' instead of unnecessary if block: This message indicates

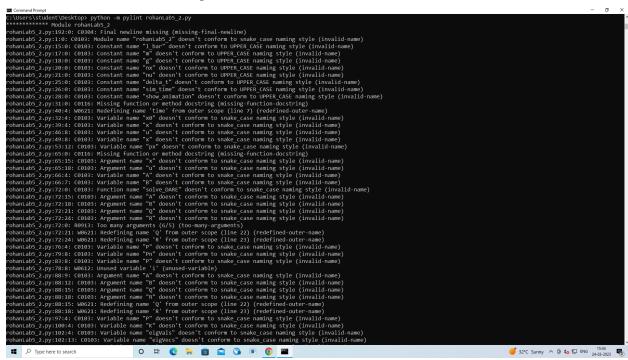
that there is an unnecessary if block and suggests using a more concise expression.

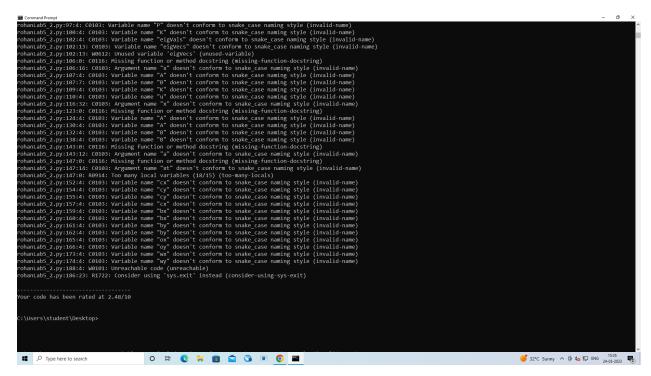
W0612: Unused variable: This message indicates that there is a variable that is not used in the code.

Code-2 Link:-

https://github.com/AtsushiSakai/PythonRobotics/blob/mast er/Control/inverted_pendulum/inverted_pendulum_lqr_con trol.py

Code-2 Error Output





Code-2 analysis:-

C0304: Final newline missing (missing-final-newline) - There is no newline character at the end of the file. It is recommended to add one.

C0103: Module name "rohanLab5_2" doesn't conform to snake_case naming style (invalid-name) - The module name should be in snake_case naming style.

C0103: Constant name "I_bar" doesn't conform to UPPER_CASE naming style (invalid-name) - The constant name should be in UPPER_CASE naming style.

C0103: Constant name "m" doesn't conform to UPPER_CASE naming style (invalid-name) - The constant name should be in UPPER_CASE naming style.

C0103: Constant name "g" doesn't conform to UPPER_CASE naming style (invalid-name) - The constant name should be in UPPER_CASE naming style.

C0103: Constant name "nx" doesn't conform to UPPER_CASE naming style (invalid-name) - The constant name should be in UPPER_CASE naming style.

C0103: Constant name "nu" doesn't conform to UPPER_CASE naming style (invalid-name) - The constant name should be in UPPER_CASE naming style.

C0103: Constant name "delta_t" doesn't conform to UPPER_CASE naming style (invalid-name) - The constant name should be in UPPER_CASE naming style.

C0103: Constant name "sim_time" doesn't conform to UPPER_CASE naming style (invalid-name) - The constant name should be in UPPER_CASE naming style.

C0103: Constant name "show_animation" doesn't conform to UPPER_CASE naming style (invalid-name) - The constant name should be in UPPER_CASE naming style.

C0116: Missing function or method docstring (missing-function-docstring) - A function or method docstring is missing.

W0621: Redefining name 'time' from outer scope (line 7) (redefined-outer-name) - The name 'time' is defined in the outer scope, and it is being redefined in the current scope.

C0103: Variable name "x0" doesn't conform to snake_case naming style (invalid-name) - The variable name should be in snake_case naming style.

C0103: Variable name "x" doesn't conform to snake_case naming style (invalid-name) - The variable name should be in snake_case naming style.

C0103: Variable name "u" doesn't conform to snake_case naming style (invalid-name) - The variable name should be in snake_case naming style.

C0103: Variable name "px" doesn't conform to snake_case naming style (invalid-name) - The variable name should be in snake_case naming style.

C0116: Missing function or method docstring (missing-function-docstring) - A function or method docstring is missing.

C0103: Argument name "x" doesn't conform to snake_case naming style (invalid-name) - The argument name should be in snake_case naming style.

C0103: Argument name "u" doesn't conform to snake_case naming style (invalid-name) - The argument name should be in snake_case naming style.

C0103: Variable name "A" doesn't conform to snake_case naming style (invalid-name) - The variable name should be in snake_case naming style.

C0103: Variable name "B" doesn't conform to snake_case naming style (invalid-name) - The variable name should be in snake_case naming style.

Code-3 Link:-

https://github.com/AtsushiSakai/PythonRobotics/blob/mast er/AerialNavigation/drone_3d_trajectory_following/Quadrot or.py

Code-3 Error Output

```
CiWsers\student\Desktop> python -m pylint rohantabs_3.py

cohantabs_3.py55:19: Cabal: line too long (157/180) (line-too-long)

rohantabs_3.py5:19: Cabal: line too long (157/180) (line-too-long)

rohantabs_3.py1:10: Cabal: hind newline missing (elissing-final rendine)

rohantabs_3.py1:10: Cabal: hind newline missing (elissing-final rendine)

rohantabs_3.py1:10: Cabal: hind newline missing (elissing-final rendine)

rohantabs_3.py1:10: Cabal: hind rohantabs_3" doesn't conform to snake_case naming style (invalid-name)

rohantabs_3.py1:18: Cabal: Attribute name "pi" doesn't conform to snake_case naming style (invalid-name)

rohantabs_3.py1:18: Cabal: Attribute name "pi" doesn't conform to snake_case naming style (invalid-name)

rohantabs_3.py1:18: Cabal: Attribute name "pi" doesn't conform to snake_case naming style (invalid-name)

rohantabs_3.py3:18: Cabal: Attribute name "pi" doesn't conform to snake_case naming style (invalid-name)

rohantabs_3.py3:18: Cabal: Attribute name "pi" doesn't conform to snake_case naming style (invalid-name)

rohantabs_3.py1:19: Roba: Too many instance attributes (157/) (too-many-instance-attributes)

rohantabs_3.py1:12:28: Cabal: Attribute name "pi" doesn't conform to snake_case naming style (invalid-name)

rohantabs_3.py1:12:28: Cabal: Attribute name "pi" doesn't conform to snake_case naming style (invalid-name)

rohantabs_3.py1:12:28: Cabal: Attribute name "pi" doesn't conform to snake_case naming style (invalid-name)

rohantabs_3.py1:12:28: Cabal: Attribute name "pi" doesn't conform to snake_case naming style (invalid-name)

rohantabs_3.py1:12:28: Cabal: Attribute name "pi" doesn't conform to snake_case naming style (invalid-name)

rohantabs_3.py1:28:18: Cabal: Attribute name "pi" doesn't conform to snake_case naming style (invalid-name)

rohantabs_3.py1:24:18: Cabal: Attribute name "pi" doesn't conform to snake_case naming style (invalid-name)

rohantabs_3.py1:24:18: Cabal: Attribute name "pi" doesn't conform to snake_case naming style (invalid-name)

rohantabs_3.py1:24:18: Cabal:
```

Code-3 explanation

C0301: Line too long: This error indicates that a line in the code exceeds the recommended maximum length of 100 characters.

C0304: Final newline missing: This error indicates that the final line in the code file does not have a newline character at the end.

C0103: Module name doesn't conform to snake_case naming style: This error indicates that the name of the module does not follow the recommended snake_case naming convention.

C0115: Missing class docstring: This error indicates that the docstring for a class is missing.

C0103: Attribute/argument/variable name doesn't conform to snake_case naming style: This error indicates that the

name of an attribute, argument or variable does not follow the recommended snake_case naming convention.

R0902: Too many instance attributes: This error indicates that a class has too many instance attributes.

R0913: Too many arguments: This error indicates that a function or method has too many arguments.

W0101: Unreachable code: This warning indicates that there is code that will never be executed.

R1722: Consider using 'sys.exit' instead: This warning indicates that it might be better to use sys.exit() instead of raise SystemExit().

C0116: Missing function or method docstring: This error indicates that the docstring for a function or method is missing.