

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/master/PathTracking/lqr_speed_steer_control/lqr_speed_steer_control.py

Code-1 Error Output

```
Microsoft Windows [Version 10.0.19044.1826]
(c) Microsoft Corporation. All rights reserved.

C:\Users\student> cd desktop

C:\Users\student\Desktop> 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 (2.17.0)
Requirement already satisfied: dill>=0.2 in c:\users\student\appdata\roaming\python\python310\site-packages (from pylint) (0.3.6)
Requirement already satisfied: tomli>=1.1.0 in c:\users\student\appdata\roaming\python\python310\site-packages (from pylint) (2.0.1)
Requirement already satisfied: colorama>=0.4.5 in c:\users\student\appdata\roaming\python\python310\site-packages (from pylint) (0.4.6)
Requirement already satisfied: tomlikt>=0.10.1 in c:\users\student\appdata\roaming\python\python310\site-packages (from pylint) (0.11.6)
Requirement already satisfied: platformdirs>=2.2.0 in c:\users\student\appdata\roaming\python\python310\site-packages (from pylint) (3.1.1)
Requirement already satisfied: isort<6,>=4.2.5 in c:\users\student\appdata\roaming\python\python310\site-packages (from pylint) (5.12.0)
Requirement already satisfied: mccabe<0.8,>=0.6 in c:\users\student\appdata\roaming\python\python310\site-packages (from pylint) (0.7.0)
Requirement already satisfied: astroid<2.17.0-dev0,>=2.15.0 in c:\users\student\appdata\roaming\python\python310\site-packages (from pylint) (2.15.0)
Requirement already satisfied: lazy-object-proxy>=1.4.0 in c:\users\student\appdata\roaming\python\python310\site-packages (from astroid<2.17.0-dev0,>=2.15.0->pylint) (1.9.0)
Requirement already satisfied: typing-extensions>=4.0.0 in c:\users\student\appdata\roaming\python\python310\site-packages (from astroid<2.17.0-dev0,>=2.15.0->pylint) (4.5.0)
Requirement already satisfied: wrapt<2,>=1.11 in c:\users\student\appdata\roaming\python\python310\site-packages (from astroid<2.17.0-dev0,>=2.15.0->pylint) (1.15.0)

C:\Users\student\Desktop> python -m pylint rohan.py
***** Module rohan
rohan.py:312:0: C0304: Final newline missing (missing-final-newline)
rohan.py:16:0: E0401: Unable to import 'PathPlanning.cubicSpline' (import-error)
rohan.py:16:0: C0413: Import "from PathPlanning.CubicSpline import cubic_spline_planner" should be placed at the top of the module (wrong-import-position)
rohan.py:23:0: C0103: Constant name "dt" doesn't conform to UPPER_CASE naming style (invalid-name)
rohan.py:27:0: C0103: Constant name "show_animation" doesn't conform to UPPER_CASE naming style (invalid-name)
rohan.py:30:0: C0115: Missing class docstring (missing-class-docstring)
rohan.py:33:8: C0103: Attribute name "x" doesn't conform to snake_case naming style (invalid-name)
rohan.py:34:8: C0103: Attribute name "y" doesn't conform to snake_case naming style (invalid-name)
rohan.py:36:8: C0103: Attribute name "v" doesn't conform to snake_case naming style (invalid-name)
rohan.py:32:23: C0103: Argument name "x" doesn't conform to snake_case naming style (invalid-name)
rohan.py:32:30: C0103: Argument name "y" doesn't conform to snake_case naming style (invalid-name)
rohan.py:32:46: C0103: Argument name "v" doesn't conform to snake_case naming style (invalid-name)
rohan.py:30:0: R0903: Too few public methods (0/2) (too-few-public-methods)
rohan.py:39:0: C0116: Missing function or method docstring (missing-function-docstring)
rohan.py:39:18: C0103: Argument name "a" doesn't conform to snake_case naming style (invalid-name)
rohan.py:41:4: R1730: Consider using 'delta = min(delta, max_steer)' instead of unnecessary if block (consider-using-min-builtin)
rohan.py:54:0: C0116: Missing function or method docstring (missing-function-docstring)
rohan.py:58:15: C0103: Argument name "A" doesn't conform to snake_case naming style (invalid-name)
rohan.py:58:18: C0103: Argument name "B" doesn't conform to snake_case naming style (invalid-name)
rohan.py:58:21: C0103: Argument name "Q" doesn't conform to snake_case naming style (invalid-name)
rohan.py:58:24: C0103: Argument name "R" doesn't conform to snake_case naming style (invalid-name)
rohan.py:62:4: C0103: Variable name "x" doesn't conform to snake_case naming style (invalid-name)
rohan.py:72:8: C0103: Variable name "x" doesn't conform to snake_case naming style (invalid-name)
rohan.py:67:8: W0612: Unused variable 'i' (unused-variable)
```

```
Command Prompt
rohan.py:67:18: W0612: Unused variable 'i' (unused-variable)
rohan.py:77:19: C0103: Argument name "A" doesn't conform to snake_case naming style (invalid-name)
rohan.py:77:12: C0103: Argument name "B" doesn't conform to snake_case naming style (invalid-name)
rohan.py:77:15: C0103: Argument name "Q" doesn't conform to snake_case naming style (invalid-name)
rohan.py:77:18: C0103: Argument name "R" doesn't conform to snake_case naming style (invalid-name)
rohan.py:85:4: C0103: Variable name "x" doesn't conform to snake_case naming style (invalid-name)
rohan.py:88:4: C0103: Variable name "k" doesn't conform to snake_case naming style (invalid-name)
rohan.py:95:0: C0116: Missing function or method docstring (missing-function-docstring)
rohan.py:95:38: C0103: Argument name "cx" doesn't conform to snake_case naming style (invalid-name)
rohan.py:95:42: C0103: Argument name "cy" doesn't conform to snake_case naming style (invalid-name)
rohan.py:95:52: C0103: Argument name "ck" doesn't conform to snake_case naming style (invalid-name)
rohan.py:95:56: C0103: Argument name "pe" doesn't conform to snake_case naming style (invalid-name)
rohan.py:95:67: C0103: Argument name "sp" doesn't conform to snake_case naming style (invalid-name)
rohan.py:95:71: C0103: Argument name "Q" doesn't conform to snake_case naming style (invalid-name)
rohan.py:95:74: C0103: Argument name "R" doesn't conform to snake_case naming style (invalid-name)
rohan.py:95:0: R0913: Too many arguments (10/5) (too-many-arguments)
rohan.py:95:0: R0914: Too many local variables (25/15) (too-many-locals)
rohan.py:96:9: C0103: Variable name "e" doesn't conform to snake_case naming style (invalid-name)
rohan.py:98:4: C0103: Variable name "tv" doesn't conform to snake_case naming style (invalid-name)
rohan.py:101:4: C0103: Variable name "v" doesn't conform to snake_case naming style (invalid-name)
rohan.py:109:4: C0103: Variable name "A" doesn't conform to snake_case naming style (invalid-name)
rohan.py:122:4: C0103: Variable name "B" doesn't conform to snake_case naming style (invalid-name)
rohan.py:126:4: C0103: Variable name "K" doesn't conform to snake_case naming style (invalid-name)
rohan.py:135:4: C0103: Variable name "X" doesn't conform to snake_case naming style (invalid-name)
rohan.py:149:4: C0103: Variable name "Ff" doesn't conform to snake_case naming style (invalid-name)
rohan.py:150:4: C0103: Variable name "fb" doesn't conform to snake_case naming style (invalid-name)
rohan.py:159:0: C0116: Missing function or method docstring (missing-function-docstring)
rohan.py:159:30: C0103: Argument name "cx" doesn't conform to snake_case naming style (invalid-name)
rohan.py:159:34: C0103: Argument name "cy" doesn't conform to snake_case naming style (invalid-name)
rohan.py:160:4: C0103: Variable name "dx" doesn't conform to snake_case naming style (invalid-name)
rohan.py:161:4: C0103: Variable name "dy" doesn't conform to snake_case naming style (invalid-name)
rohan.py:163:4: C0103: Variable name "d" doesn't conform to snake_case naming style (invalid-name)
rohan.py:181:0: C0116: Missing function or method docstring (missing-function-docstring)
rohan.py:181:18: C0103: Argument name "cx" doesn't conform to snake_case naming style (invalid-name)
rohan.py:181:22: C0103: Argument name "cy" doesn't conform to snake_case naming style (invalid-name)
rohan.py:181:32: C0103: Argument name "ck" doesn't conform to snake_case naming style (invalid-name)
rohan.py:181:0: R0913: Too many arguments (6/5) (too-many-arguments)
rohan.py:181:0: R0914: Too many local variables (23/15) (too-many-locals)
rohan.py:182:4: C0103: Variable name "T" doesn't conform to snake_case naming style (invalid-name)
rohan.py:189:4: C0103: Variable name "x" doesn't conform to snake_case naming style (invalid-name)
rohan.py:190:4: C0103: Variable name "y" doesn't conform to snake_case naming style (invalid-name)
rohan.py:192:4: C0103: Variable name "v" doesn't conform to snake_case naming style (invalid-name)
rohan.py:193:4: C0103: Variable name "t" doesn't conform to snake_case naming style (invalid-name)
rohan.py:195:4: C0103: Variable name "e" doesn't conform to snake_case naming style (invalid-name)
rohan.py:196:8: C0103: Variable name "dl" doesn't conform to snake_case naming style (invalid-name)
rohan.py:198:24: C0103: Variable name "e" doesn't conform to snake_case naming style (invalid-name)

Command Prompt
rohan.py:198:24: C0103: Variable name "e" doesn't conform to snake_case naming style (invalid-name)
rohan.py:198:33: C0103: Variable name "ai" doesn't conform to snake_case naming style (invalid-name)
rohan.py:209:8: C0103: Variable name "dx" doesn't conform to snake_case naming style (invalid-name)
rohan.py:210:8: C0103: Variable name "dy" doesn't conform to snake_case naming style (invalid-name)
rohan.py:226:12: W0101: Unreachable code (unreachable)
rohan.py:225:35: R1722: Consider using 'sys.exit' instead (consider-using-sys-exit)
rohan.py:238:0: C0116: Missing function or method docstring (missing-function-docstring)
rohan.py:268:0: C0116: Missing function or method docstring (missing-function-docstring)
rohan.py:270:4: C0103: Variable name "ax" doesn't conform to snake_case naming style (invalid-name)
rohan.py:271:4: C0103: Variable name "ay" doesn't conform to snake_case naming style (invalid-name)
rohan.py:274:4: C0103: Variable name "cx" doesn't conform to snake_case naming style (invalid-name)
rohan.py:274:8: C0103: Variable name "cy" doesn't conform to snake_case naming style (invalid-name)
rohan.py:274:18: C0103: Variable name "ck" doesn't conform to snake_case naming style (invalid-name)
rohan.py:274:22: C0103: Variable name "s" doesn't conform to snake_case naming style (invalid-name)
rohan.py:278:4: C0103: Variable name "sp" doesn't conform to snake_case naming style (invalid-name)
rohan.py:280:4: C0103: Variable name "t" doesn't conform to snake_case naming style (invalid-name)
rohan.py:280:7: C0103: Variable name "x" doesn't conform to snake_case naming style (invalid-name)
rohan.py:280:10: C0103: Variable name "y" doesn't conform to snake_case naming style (invalid-name)
rohan.py:280:10: C0103: Variable name "v" doesn't conform to snake_case naming style (invalid-name)
rohan.py:280:4: W0612: Unused variable 't' (unused-variable)
rohan.py:280:13: W0612: Unused variable 'yaw' (unused-variable)
rohan.py:280:18: W0612: Unused variable 'v' (unused-variable)
rohan.py:13:0: C0411: standard import "import pathlib" should be placed before "import matplotlib.pyplot as plt" (wrong-import-order)

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Your code has been rated at 4.78/10

C:\Users\student\Desktop>
```

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/master/Control/inverted_pendulum/inverted_pendulum_lqr_control.py

Code-2 Error Output

```
C:\Users\student\Desktop> python -m pylint rohanLab5_2.py
***** Module rohanLab5_2
rohanLab5_2.py:192:0: C0304: Final newline missing (missing-final-newline)
rohanLab5_2.py:110:0: C0103: Constant name "rohanLab5_2" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:15:0: C0103: Constant name "l_bar" doesn't conform to UPPER_CASE naming style (invalid-name)
rohanLab5_2.py:17:0: C0103: Constant name "m" doesn't conform to UPPER_CASE naming style (invalid-name)
rohanLab5_2.py:18:0: C0103: Constant name "g" doesn't conform to UPPER_CASE naming style (invalid-name)
rohanLab5_2.py:20:0: C0103: Constant name "nx" doesn't conform to UPPER_CASE naming style (invalid-name)
rohanLab5_2.py:21:0: C0103: Constant name "nu" doesn't conform to UPPER_CASE naming style (invalid-name)
rohanLab5_2.py:25:0: C0103: Constant name "delta_t" doesn't conform to UPPER_CASE naming style (invalid-name)
rohanLab5_2.py:26:0: C0103: Constant name "sim_time" doesn't conform to UPPER_CASE naming style (invalid-name)
rohanLab5_2.py:28:0: C0103: Constant name "show_animation" doesn't conform to UPPER_CASE naming style (invalid-name)
rohanLab5_2.py:31:0: C0106: Missing function or method docstring (missing-function-docstring)
rohanLab5_2.py:40:4: W0621: Redefining name 'time' from outer scope (line 7) (redefined-outer-name)
rohanLab5_2.py:32:4: C0103: Variable name "x0" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:39:4: C0103: Variable name "x" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:46:8: C0103: Variable name "u" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:49:8: C0103: Variable name "x" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:53:12: C0103: Variable name "px" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:65:0: C0106: Missing function or method docstring (missing-function-docstring)
rohanLab5_2.py:65:15: C0103: Argument name "x" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:65:18: C0103: Argument name "u" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:66:4: C0103: Variable name "A" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:66:7: C0103: Variable name "B" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:72:0: C0103: Function name "solve DARE" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:72:15: C0103: Argument name "A" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:72:18: C0103: Argument name "B" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:72:21: C0103: Argument name "Q" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:72:24: C0103: Argument name "R" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:72:0: R0913: Too many arguments (6/5) (too-many-arguments)
rohanLab5_2.py:72:21: W0621: Redefining name 'Q' from outer scope (line 22) (redefined-outer-name)
rohanLab5_2.py:72:24: W0621: Redefining name 'R' from outer scope (line 22) (redefined-outer-name)
rohanLab5_2.py:76:4: C0103: Variable name "P" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:79:8: C0103: Variable name "Pn" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:83:8: C0103: Variable name "P" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:78:8: W0612: Unused variable 'i' (unused-variable)
rohanLab5_2.py:88:9: C0103: Argument name "A" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:88:12: C0103: Argument name "B" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:88:15: C0103: Argument name "Q" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:88:18: C0103: Argument name "R" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:88:15: W0621: Redefining name 'Q' from outer scope (line 22) (redefined-outer-name)
rohanLab5_2.py:88:18: W0621: Redefining name 'R' from outer scope (line 23) (redefined-outer-name)
rohanLab5_2.py:97:4: C0103: Variable name "P" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:100:4: C0103: Variable name "K" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:102:4: C0103: Variable name "eigVals" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:102:13: C0103: Variable name "eigVecs" doesn't conform to snake_case naming style (invalid-name)
```

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rohanLab5_2.py:97:4: C0103: Variable name "P" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:100:4: C0103: Variable name "K" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:102:4: C0103: Variable name "eigVals" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:102:13: C0103: Variable name "eigvecs" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:102:13: W0612: Unused variable 'eigvecs' (unused-variable)
rohanLab5_2.py:106:0: C0116: Missing function or method docstring (missing-function-docstring)
rohanLab5_2.py:106:16: C0103: Argument name "x" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:107:4: C0103: Variable name "A" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:107:7: C0103: Variable name "B" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:109:4: C0103: Variable name "K" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:110:4: C0103: Variable name "u" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:116:32: C0103: Argument name "x" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:123:0: C0116: Missing function or method docstring (missing-function-docstring)
rohanLab5_2.py:124:4: C0103: Variable name "A" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:130:4: C0103: Variable name "A" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:132:4: C0103: Variable name "B" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:138:4: C0103: Variable name "B" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:143:0: C0116: Missing function or method docstring (missing-function-docstring)
rohanLab5_2.py:143:12: C0103: Argument name "a" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:147:0: C0116: Missing function or method docstring (missing-function-docstring)
rohanLab5_2.py:147:14: C0103: Argument name "xt" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:147:0: R0914: Too many local variables (18/15) (too-many-locals)
rohanLab5_2.py:152:4: C0103: Variable name "cx" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:154:4: C0103: Variable name "cy" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:155:4: C0103: Variable name "cy" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:157:4: C0103: Variable name "cx" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:159:4: C0103: Variable name "bx" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:160:4: C0103: Variable name "bx" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:161:4: C0103: Variable name "by" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:162:4: C0103: Variable name "by" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:165:4: C0103: Variable name "ox" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:166:4: C0103: Variable name "oy" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:173:4: C0103: Variable name "wx" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:174:4: C0103: Variable name "wy" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_2.py:188:4: W0101: Unreachable code (unreachable)
rohanLab5_2.py:186:23: R1722: consider using 'sys.exit' instead (consider-using-sys-exit)

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Your code has been rated at 2.48/10

C:\Users\student\Desktop>
```

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/master/AerialNavigation/drone_3d_trajectory_following/Quadrotor.py

Code-3 Error Output

```
Command Prompt
C:\Users\student\Desktop> python -m pylint rohanLab5_3.py
***** Module rohanLab5_3
rohanLab5_3.py:56:0: C0301: Line too long (157/100) (line-too-long)
rohanLab5_3.py:89:0: C0304: Final newline missing (missing-final-newline)
rohanLab5_3.py:110: C0103: Module name "rohanLab5_3" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:111:0: C0115: Missing class docstring (missing-class-docstring)
rohanLab5_3.py:113:8: C0103: Attribute name "p1" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:114:8: C0103: Attribute name "p2" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:115:8: C0103: Attribute name "p3" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:116:8: C0103: Attribute name "p4" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:117:8: C0103: Attribute name "ax" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:118:8: C0103: Attribute name "x" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:119:8: C0103: Attribute name "y" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:120:8: C0103: Attribute name "z" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:121:0: R0902: Too many instance attributes (15/7) (too-many-instance-attributes)
rohanLab5_3.py:122:23: C0103: Argument name "x" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:123:28: C0103: Argument name "y" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:124:33: C0103: Argument name "z" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:125:4: R0913: Too many arguments (9/5) (too-many-arguments)
rohanLab5_3.py:126:12: W0101: Unreachable code (unreachable)
rohanLab5_3.py:127:35: R1722: Consider using "sys.exit" instead (consider-using-sys-exit)
rohanLab5_3.py:128:4: C0116: Missing function or method docstring (missing-function-docstring)
rohanLab5_3.py:129:26: C0103: Argument name "x" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:130:29: C0103: Argument name "y" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:131:32: C0103: Argument name "z" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:132:4: R0913: Too many arguments (7/5) (too-many-arguments)
rohanLab5_3.py:133:4: C0116: Missing function or method docstring (missing-function-docstring)
rohanLab5_3.py:134:8: C0103: Variable name "x" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:135:8: C0103: Variable name "y" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:136:8: C0103: Variable name "z" doesn't conform to snake_case naming style (invalid-name)
rohanLab5_3.py:137:4: C0116: Missing function or method docstring (missing-function-docstring)
rohanLab5_3.py:138:8: C0103: Variable name "t" doesn't conform to snake_case naming style (invalid-name)

Your code has been rated at 4.44/10

C:\Users\student\Desktop>
```

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.