

IT314 - SOFTWARE ENGINEERING

LAB-5: Static Analysis

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Selected tool: Pylint- It is a static code analysis tool for python programming language. It checks for error in python code. It analyze our code without actually running it.

Image of Code with error:

```
16 circuit_playground_temperature = adafruit_thermistor.Thermistor(board.PIN_10, 10000, 10000, 25, 5550)
17 touch_A1 = touchio.TouchIn(board.A1)
18 touch_A2 = touchio.TouchIn(board.A2)
19
20 led = digitalio.DigitalInOut(board.D13)
21 led.direction = digitalio.Direction.OUTPUT
22
23 button_A = digitalio.DigitalInOut(board.BUTTON_A)
24 button_A.direction = digitalio.Direction.INPUT
25 button_A.pull = digitalio.Pull.DOWN
26
27 while True:
28     x, y, z = lis3dh.acceleration
29
30     if button_A.value:
31         led.value = True
32     else:
33         led.value = False
34
35     print("Temperature:", circuit_playground_temperature.temperature)
36     print("Acceleration:", x, y, z)
37
38     if touch_A1.value:
39         pixels.fill((255, 0, 0))
40     if touch_A2.value:
41         pixels.fill((0, 0, 255))
42     else:
43         pixels.fill((0, 0, 0))
44
45     time.sleep(0.01)
46
```

Image of error detected by tool:

PROBLEMS24

OUTPUT

DEBUG CONSOLE

TERMINAL

JUPYTER

pylint_example.py

C:\Users\student\Desktop\Pylint_and_CircuitPython\Pylint_and_CircuitPython\CircuitPython 7.x

8

⊗

Inconsistent use of tabs and spaces in indentation

Pylance

[Ln 37, Col 1]

⊗

Expected expression

Pylance

[Ln 37, Col 2]

⚠

Import "board" could not be resolved

Pylance

([reportMissingImports](#))

[Ln 5, Col 8]

⚠

Import "digitalio" could not be resolved

Pylance

([reportMissingImports](#))

[Ln 6, Col 8]

⚠

Import "adafruit_lis3dh" could not be resolved

Pylance

([reportMissingImports](#))

[Ln 7, Col 8]

⚠

Import "touchio" could not be resolved

Pylance

([reportMissingImports](#))

[Ln 8, Col 8]

⚠

Import "neopixel" could not be resolved

Pylance

([reportMissingImports](#))

[Ln 10, Col 8]

⚠

Import "adafruit_thermistor" could not be resolved

Pylance

([reportMissingImports](#))

[Ln 11, Col 8]

pylint_example.py

C:\Users\student\Desktop\Pylint_and_CircuitPython\Pylint_and_CircuitPython\CircuitPython 8.x

8

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[Ln 8, Col 8]

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Pylance

([reportMissingImports](#))

[Ln 10, Col 8]

⚠

Import "adafruit_thermistor" could not be resolved

Pylance

([reportMissingImports](#))

[Ln 11, Col 8]

speedtest.py

C:\Users\student\Desktop\PYTHON_2

8

⊗

Inconsistent use of tabs and spaces in indentation

Pylance

[Ln 32, Col 1]

⊗

Expected expression

Pylance

[Ln 32, Col 2]

⚠

Import "board" could not be resolved

Pylance

([reportMissingImports](#))

[Ln 1, Col 8]

⚠

Import "digitalio" could not be resolved

Pylance

([reportMissingImports](#))

[Ln 2, Col 8]

PS C:\Users\student> python -u "c:\Users\student\Desktop\Pylint_and_CircuitPython\Pylint_and_CircuitPython\CircuitPython 7.x\pylint_example.py

File "c:\Users\student\Desktop\Pylint_and_CircuitPython\Pylint_and_CircuitPython\CircuitPython 7.x\pylint_example.py", line 37

else:

TabError: inconsistent use of tabs and spaces in indentation