**National Textile University, Faisalabad**



**Department of Computer Science**

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| **Class:** | BS Artificial Intelligence |
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| **Activity:** | Lab 2 (Home Task) |
| **Course Name:** | Internet of Things |
| **Submitted To:** | Nasir Mehmood |
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Thony Screenshot:

A screenshot of a computer

AI-generated content may be incorrect.

Question: Why does the Neopixel always turn blue when the button is pressed?

NeoPixel always turning blue when the button is pressed is due to the structure of the while loop as blue color is at the end of the loop so always neopixel turning blue because while loop is checking the state of the button at the start of the loop and running indefinitely when button is not pressed as button is pressed the inner loop stops but no new color is set explicitly.

Question: How can it be made to stop on different colors in real-time (e.g., sometimes red, sometimes green, sometimes blue)?

The color you want to stop on neopixel when button is pressed simply put that color at the last in the loop but by this only that color will display, but if you want to display different color on each button pressed you can change the code and add interrupt request with the button.

A screenshot of a computer

AI-generated content may be incorrect.

Question:

* Change the color after every 5 button presses.
* Examine the result: Does the color change exactly after 5 presses, or is there abnormal behavior?
* If there is abnormal behavior, what could be the reason?

A screenshot of a computer

AI-generated content may be incorrect.

Reason for abnormal behavior:

* Mechanical buttons can "bounce" when pressed, meaning they rapidly toggle **ON and OFF** multiple times before settling.
* If each bounce is counted as a separate press, the counter may **increase too fast**, leading to unexpected color changes.