

# Milestone Two GPIO UART Lab Questions

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- 1) **Why do SerialTest-Write.py and SerialLightControl-Client.py use the encode() method when writing data to the serial port?**

The encode() method converts a string into **bytes**, which is necessary for **serial communication** since the serial port transmits raw **byte data**.

- 2) **Why does SerialTest-Read.py use the decode() method when reading data from the serial port?**

The decode() method converts **byte data** back into a **readable string** because data from the serial port is received in **bytes**, not as plain text.

- 3) **What is the purpose of the try/except block in both SerialLightControl-Client.py and SerialLightControl-Server.py?**

It helps to **catch errors** (such as disconnections, invalid inputs, or serial port failures) and ensures the program **doesn't crash unexpectedly**.

- 4) **Why is it necessary to return the GPIO pins to their original state at the end of the program?**

Leaving the GPIO pins **active** after the program ends can cause issues such as:

- **Unwanted power drain.**
- **Potential damage** to connected components.
- **Interference** with future executions of the script.