Wireless Network
HW#4

❑ Objective

- Implement coding schemes:

  Part A: Hamming code(25%)

  Part B: Linear block code(25%)

  Part C: Cyclic code(25%)

❑ Requirements

Part 1: Programming(**C/C++/Python/matlab**)

- Step 1: Randomly generate 1Kbits of binary data
- Step 2: Have these data encoded with channel coding schemes above.
- Step 3: Randomly ruin the data (one or more bits depend on what kind of channel coding scheme you use)
- Step 4: Decode the ruined data
- Step 5: Compare the original data and decoded data
- Step 6: Output the result in “output.txt”

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Output Requirements

There should be 5 rows in the output file

- 1. Original data
- 2. Encoded data
- 3. Defective data
- 4. Decoded data
- 5. Comparing result that shows “number of bit(s) error detected”, “corrected” or “not corrected”

Part D: Report (25 %)

- Elaborate and compare the ability of channel coding schemes you implement in your program. Explain your result in detail.

❑ **Submission**

- Please submit your report (.pdf file) and program via ILMS before the due date