CS4220

Team Member \_\_\_\_\_\_\_Thomas Jessop\_\_\_\_\_\_\_\_\_\_\_

Team Member \_\_\_\_\_\_Matthew Rawlins\_\_\_\_\_\_\_\_\_\_

Team Member \_\_\_\_\_\_James Worsham\_\_\_\_\_\_\_\_\_\_\_

Project #1

Hamming Codes

Write two C programs. Program one, coder, will read one byte (really bytes that simulate bits) and create parity bits (Hamming codes). Program two, decoder, will take the codeword generated by coder and test for the dropping of bits. In addition to testing the codeword, decoder will locate the bit that was switched and reconstruct the correct byte.

Run # 1 – 10011010

Coder input (one byte) - .

Coder output (codeword) –

Decoder input (codeword) –

Decoder output – (codeword, bit position that changed, reconstructed byte)

Run # 2 – 10011010

Coder input (one byte) - .

Coder output (codeword) –

Decoder input (codeword) – \*Manually change codeword to 011100101110

Decoder output – (codeword, bit position that changed, reconstructed byte)

In Windows, download the C compiler, MinGW.

Enter your program with a text editor.

Compile and run your program using:

gcc –o ham ham.c

./ham

Submit –

Source Code

Testing output

Description of the operation of the programs