INFSCI 2500

Homework 6

The assignment is to complete the program Huffman.java which implements the Huffman code compression algorithm. The program should take in text from the keyboard as input. Then, that message should be printed encoded along with its individual character codes. Sample output is shown below. You can include any number of messages in your output pdf, but one of them should be “hello world” and another should be “the quick fox jumps over the lazy brown dog”.

Much of the Huffman.java file is written already. The assignment is to implement the calculateHuffmanCodes() method properly.

Submit the following:

1. The java source file.
2. A pdf readme file which includes the output you got from your program.

Zip these items together and name it “HW6\_Your\_Name”. Then submit it on Canvas.

Grading:

2 points: Submitting the source file and pdf with output, file compiles and runs without error

2 points: The encoded message is printed out correctly.

2 points: The individual character codes are printed out correctly.

This assignment is due December 6 at 5:59 PM. Late submissions will not be accepted!

Sample Output:

Enter a message to encode >

hello world

Huffman codes for this message:

1100

d 1111

e 011

h 010

l 10

o 00

r 1110

w 1101

Encoded message: 01001110100011001101001110101111

Fixed-width encoding of this message would require 88 bits.

After Huffman encoding, the message takes up 32 bits, a savings of 63.64%