

CS 180: Data Structures, Fall 2011

Homework 5

Due by the start of class on Monday, Dec. 12

1. R-12.14 on page 588 of the text.
2. Using the Huffman tree from the previous problem, write the binary encoding of the message “spot soda too”.
3. How many bits did your encoding of the message in the previous problem take? How many bits would a standard ASCII encoding have taken (assuming 8 bits per character)?
4. Problems R-9.7, R-9.8, R-9.9, R-9.10 on page 417 of the textbook.
5. Problem R-9.14 on Page 418 of the textbook.
6. Draw the treap that results when the following pairs are inserted, where we form a BST over the letters and a min heap over the numbers:
 $(R, 5), (S, 9), (E, 7), (H, 1), (W, 13), (D, 8), (J, 2), (K, 4), (P, 11)$.