

Huffman Coding:

Consider the following alphabet of letters with their associated frequencies below:

letter	a	e	h	p
frequency	0.30	0.30	0.15	0.25
code				

1. Sort the letters by their frequency (low to high), breaking ties using alphabetical order. This creates a priority queue.
2. Merge the first two letters off the queue and join them to make a parent node (put the first letter as the left child and the second letter as the right child). Compute the frequency of the parent node as the sum of the frequencies of the children. Add this new node back into the queue at the correct position (if ties, add towards the end of the queue to help balance the tree). Repeat this process until there are no more elements left in the queue.
3. Label the left branches of the resulting tree with “0” and the right branches with “1”. Follow the path from the root to each leaf to find the code for each letter (fill in above).
4. Decode the following hidden message using your code:

00111001