可攜帶計算機＊

9. **(10%) Huffman codes are widely used for data compression. Suppose we have a 1000 character data file that we wish to store compactly. The text file contains only 6 distinct characters, {A, B, C, D, E, F}, and the corresponding probabilities are {0.2, 0.05, 0.15, 0.23, 0.3, 0.07}. Using the Huffman's codes to encode the word "ACE". Compute the total number of bits required to store the data file if the Huffman codes are used.**

10. **(10%) Suppose you are given the following numbers, 20, 62, 31, 14, 1, 25, 3, 19, 11 and the following hash function: H(x)= x mod 11. You are asked to store these numbers by hashing. Let the size of the hash table be 11. Please build and show the hash tables using the following overflow handling techniques: (a) Linear probing, (b) Chaining.**