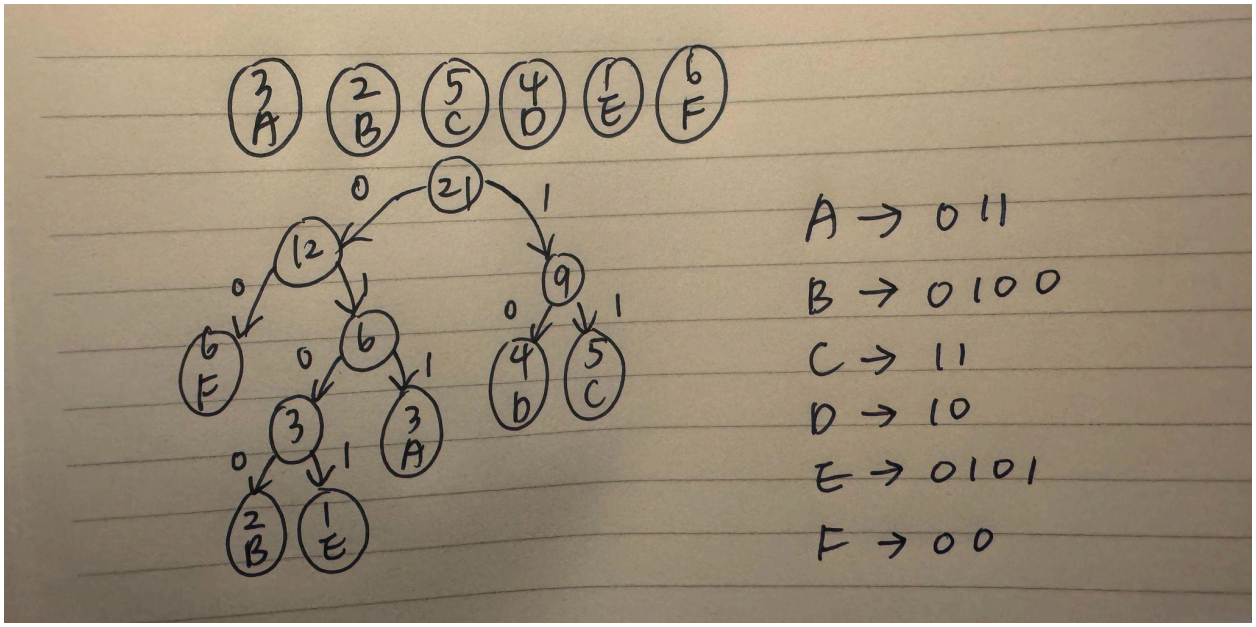
11.



Ans:

A -> 011
B -> 0100
C -> 11
D -> 10
E -> 0101
F -> 00

This method generates a binary tree where each code is uniquely distinguishable, preventing any code from being a prefix of another. This characteristic facilitates efficient decoding. The process begins by combining the least frequent characters, progressively moving towards those that are more frequent. Consequently, characters with the lowest frequency receive the longest codes. The tree's construction aims to minimize the total length of the encoded message. It does so by ensuring that the length of each character's code, weighted by its frequency, contributes to the shortest possible combined length for the entire message. This optimization makes the Huffman Coding technique highly effective for data compression.