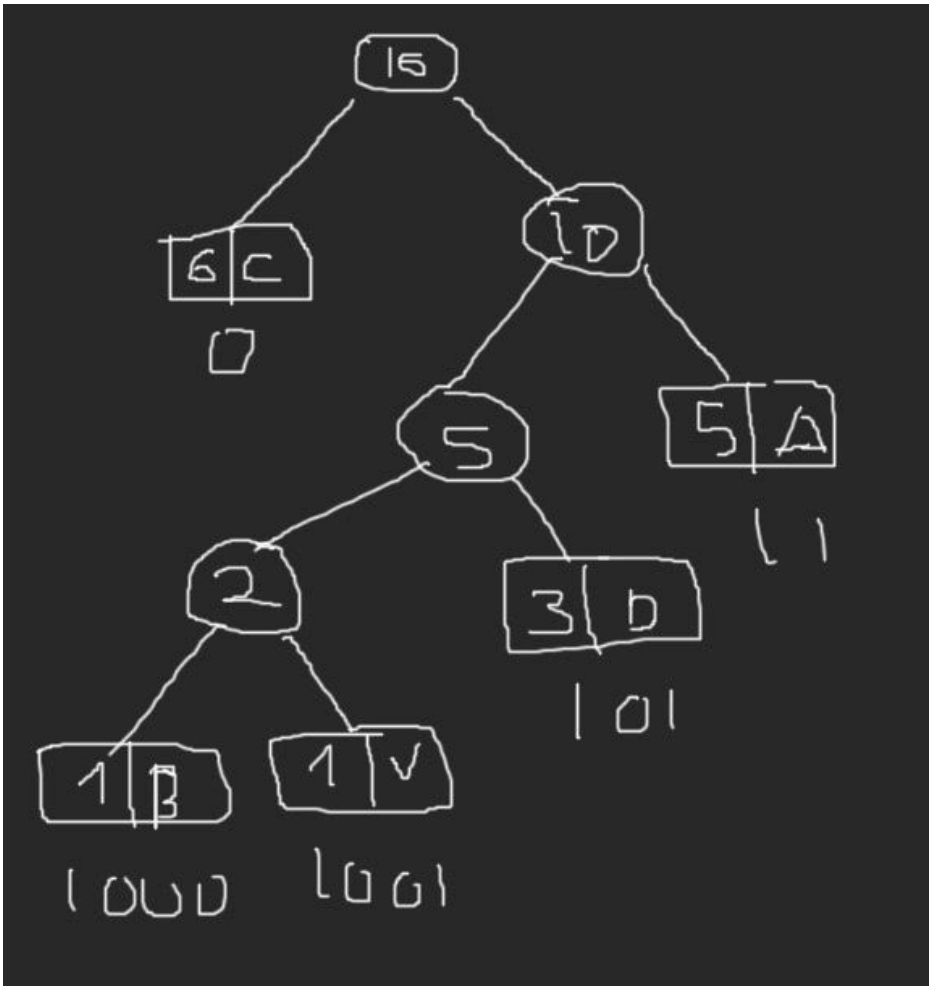
DATA STRUCTURES & ALGORITHMS I
LAB PROJECT

The program has 2 main structures. The first one is the *table* class which keeps the data of characters, their number of repetitions, and Huffman coded binary values. Also this list is ordered by frequency so the more repetitive characters are found faster. The second one is *HTree* class which creates and keeps the Huffman tree. This class uses *Hnode* instead of *tnode* because *tnode* provides a linked list, *Hnode* provides a tree structure.

Huffman coding takes O(n log n) time unless the frequencies are already sorted, in this situation, Huffman coding takes O(n) time because frequencies are already sorted thanks to the list structure of the *table* class. When *table.additem()* function adds a character to the *table* list it also repositions the node in the right place according the frequency.



Huffman tree of "*VBAAACCCCCDDAADC*"

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