1. Using **Variable Length Coding** Scheme encode the following strings.Construct **Huffman Tree**, generate the codeword for each character and show the final encoded message.Also count the total number of bits required to store each string.
   a. Humpty Dumpty had a great fall
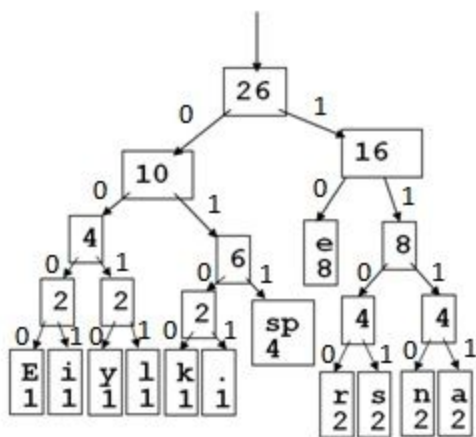   b. Ba Ba Black Sheep

2. Decode the following Encoded Text from the given Huffman Binary Tree.

Encoded Text:

0000101100000110011100010101101011110110101011100111110101111111000 1100111111010010

3. Hash function: KILL = (11+9+12+12) % 11 = 0. Use the Value box to find the values of each character.

Value:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

Hash Table:

0	1	2	3	4	5	6	7	8	9	10

Operations Table:

SL NO	Operations	Collision =Yes/No	Hash Function Value	Actual index of the array where the operation is done Or false if invalid/not found	No. of boxes traversed
1	insert(KILL)	No	0	0	1
2	insert(KK)	Yes	0	1	2
3	search(EHL)	No	3	False (not found)	1
4	insert(ZIA)				
5	insert(AZ)				
6	delete(KVK)				
7	insert(KZK)				
8	insert(AB)				
9	insert(EXAM)				
10	delete(KILL)				
11	insert(LIKE)				

Execute the operations in sequence listed in the table above and fill-up the columns correctly(in hash table and operations tabel).

    a.   For collisions resolution use Linear Probing method.
    b.   For collisions resolution use Quadratic Probing method.