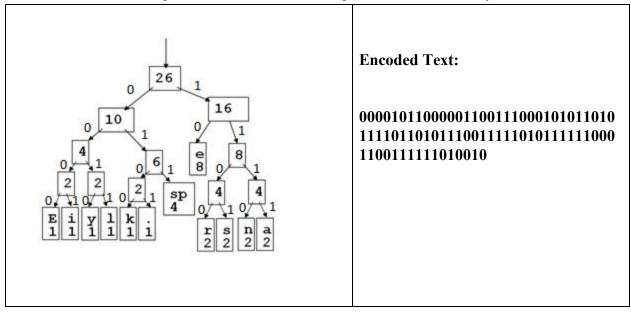
## CSE221: Algorithms Worksheet 7 Huffman Encoding and Hashmap

- 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.



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	В	С	D	Е	F	G	Н	I	J	K	L	M	N	О	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)	Yes	1	False (not found)	2
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.