

Assignment 5- PRD190001.

Q1)

1) K

2) K
 |
 W_r

3) K
 |
 W_r
 |
 D_r

→ O
 / \
 K_r W_r

4) O
 / \
 K_r W_r
 |
 S_r

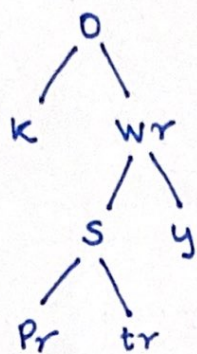
→ O
 / \
 K W
 |
 S_r

5) O
 / \
 K W
 / \
 S_r y_r

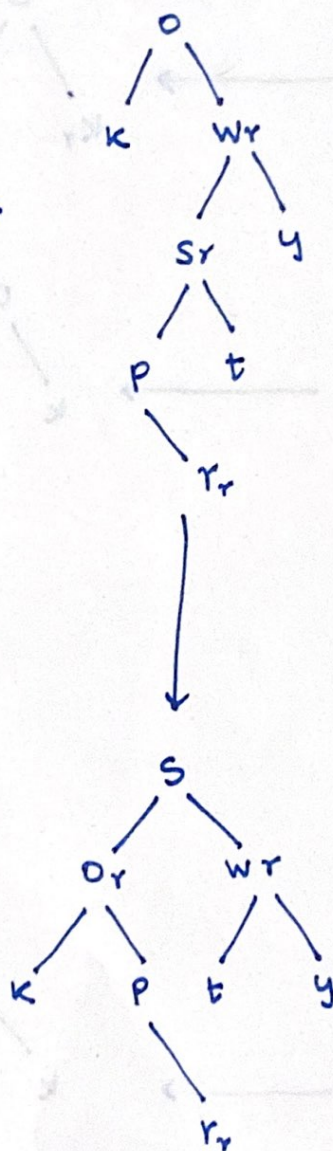
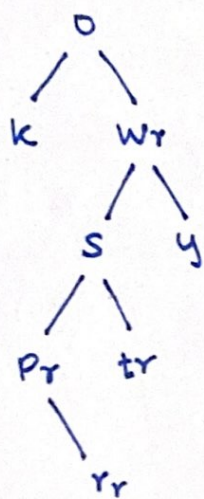
6) O
 / \
 K W
 / \
 S_r y_r
 |
 b_r

→ O
 / \
 K W_r
 / \
 S y
 |
 b_r

7)



8)



Q2)

1) 30

2) 30
20r

3) 30
20r
11r

→

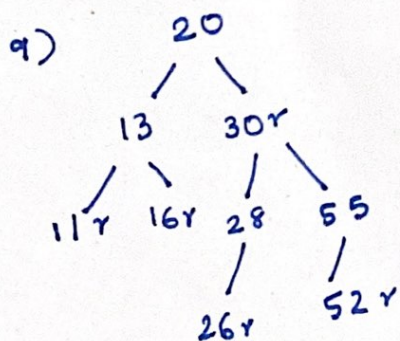
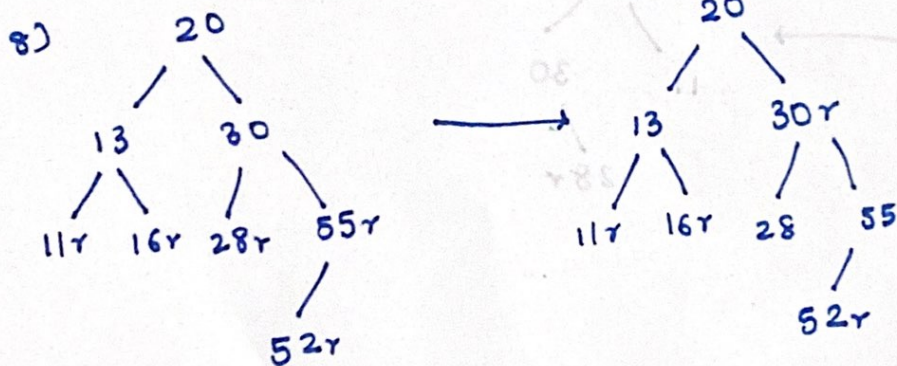
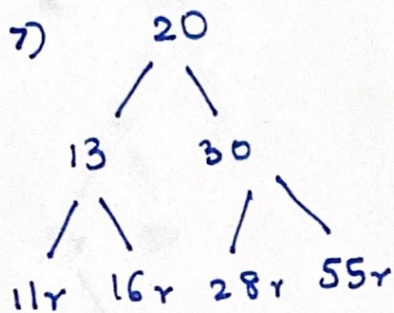
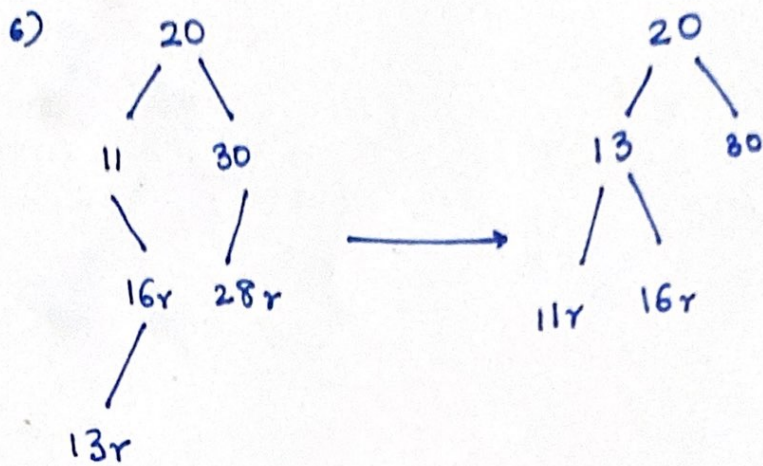
20
~~30~~
11r 30r

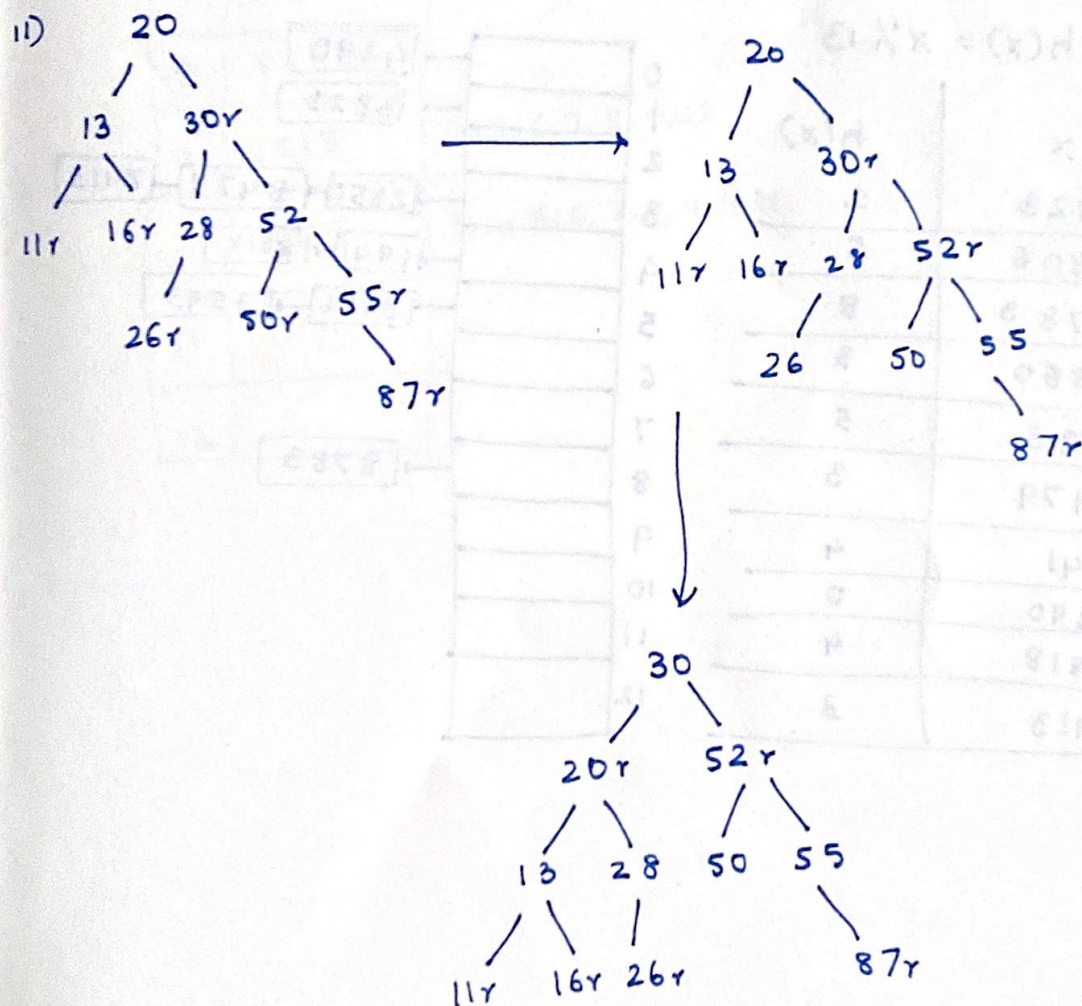
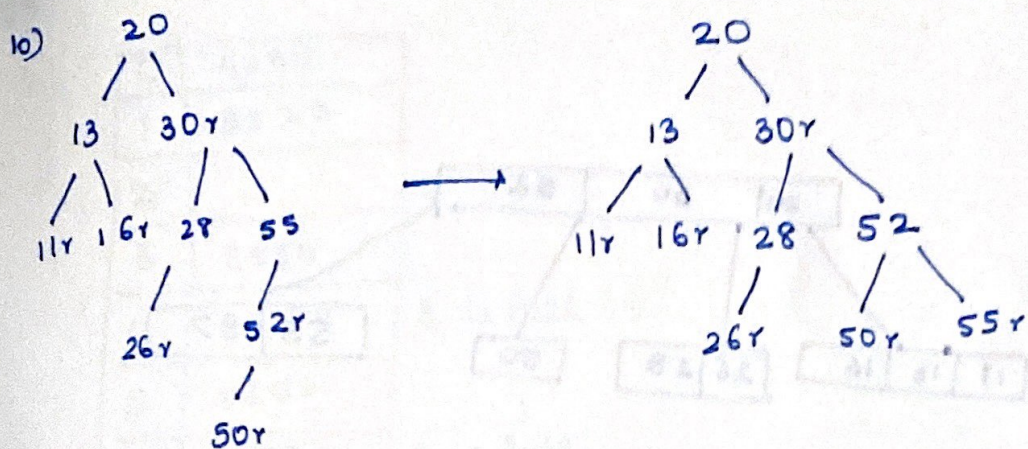
4) 20
11r 30r
28r

→

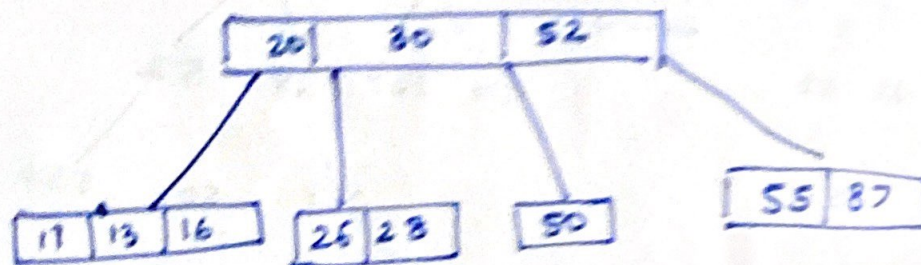
20
11 30
28r

5) 20
11 30
16r 28r



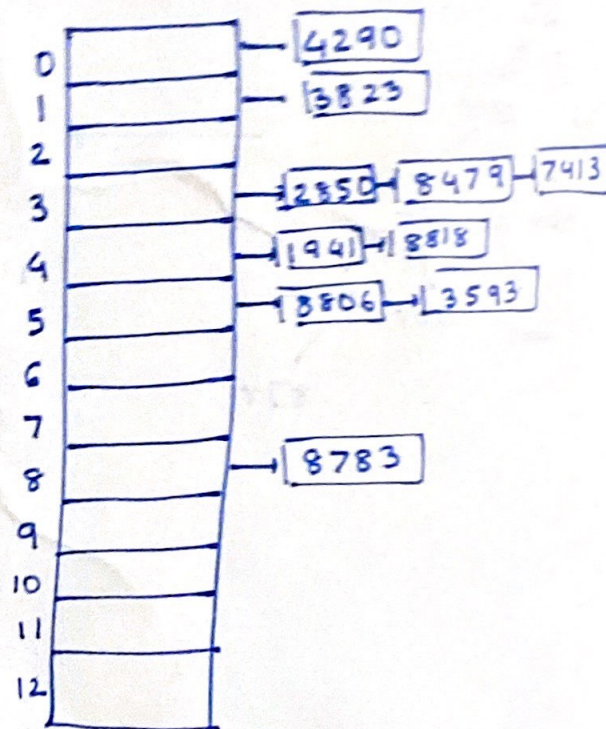


Q3)



Q4) $h(x) = x \% 13$

x	$h(x)$
3823	1
8806	5
8783	8
2850	3
3593	5
8479	3
1941	4
4290	0
8818	4
7413	3



0	4290
1	3823
2	
3	2850
4	8479
5	8806
6	3593
7	1941
8	8783
9	8818
10	7413
11	
12	

3 is full

5 is full

4, 5, 6 is full

4, 5, 6, 7, 8 full

3, 4, 5, 6, 7, 8, 9 full.

Q6)

0	1941
1	3823
2	
3	2850
4	8479
5	8806
6	3593
7	8818
8	8783
9	4290
10	
11	
12	7413

$(4 + 3^2) \% 13$ block

$(3 + 1^2) \% 13$ block

$(5 + 1^2) \% 13$ block

$(4 + 4^2) \% 13$ block

$(0 + 3^2) \% 13$ block

$(3 + 3^2) \% 13$ block

Q7)

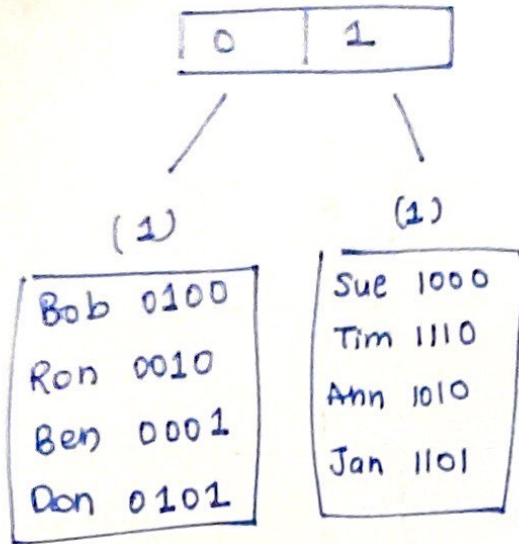
x	h(x)	h1(x)
3823	1	5
8806	5	5
8783	8	6
2850	3	10
3593	5	4
8479	3	2
1941	4	6
4290	0	11
8818	4	4
7413	3	1

0	4290
1	3823
2	8479
3	2850
4	3593
5	8806
6	1941
7	7413
8	8783
9	
10	
11	
12	8818

7 * 1 block

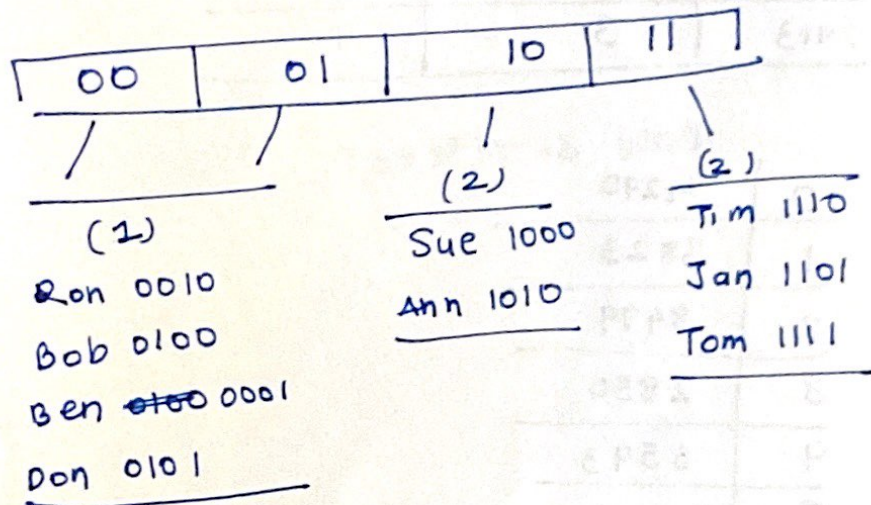
3 * 4 block.

53)

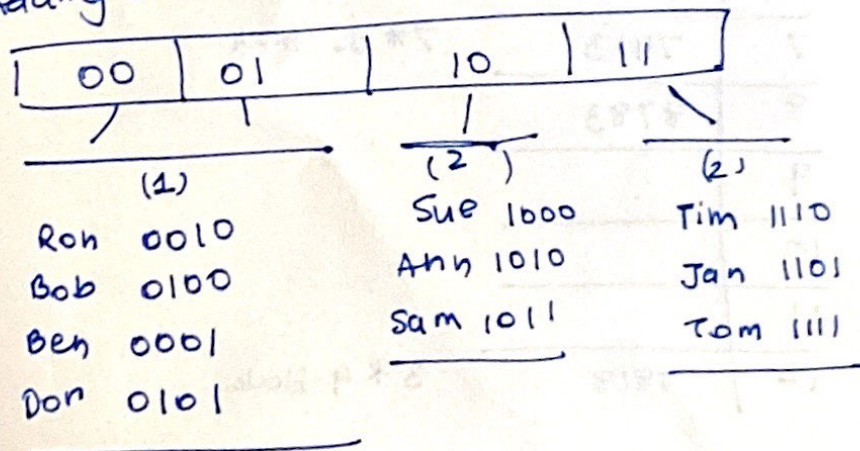


Adding step 1-8
 Bob, Sue, Tim,
 Ron, Ann, Jan, Ben,
 Don one by one
 until leaf is reached
 to limit.

Step 9 Now adding ~~Sue~~ Tom, restructure the table



Step 10 Adding Sam



Q9)

TABLE 1

0	B
1	
2	A
3	
4	C

A, B, C in 2, 0, 4

TABLE 2

0	
1	
2	
3	
4	

0	D
1	
2	A
3	
4	C

0	B
1	
2	
3	
4	

0	B
1	
2	E
3	
4	C

0	A
1	D
2	
3	
4	

(10)

0		
1		
2		
3		
4		
5		
6	A	1001
7	B	1101
8	D	0001
9	E	0001
10	F	0000
11	G	0000
12	C	0000
13		

A B C in 6 7 9 their hop 1000

D to 8 as 7 is taken 7, 1000 \rightarrow 1100

E in 9 as 6, 7, 8 are taken C to 10. 6's hop 1001
& 9's 0100

F in 10 as 7, 8, 9 taken 7's hop - 1101,

C moved to 11 9's hop 0010

G to 11 as 8 9 10 taken, 8's hop 0001 C to 12 and
9's hop 0001