MD YASEEN AHMED

1BM19CS404.

ADS lab viva.

(1) Red/Black Trees : MD YASEEN AHMED.

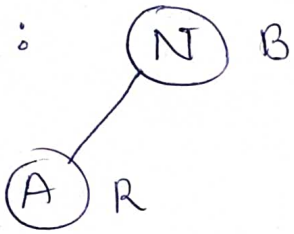
Last 6 characters : NAHMED.

B : Black

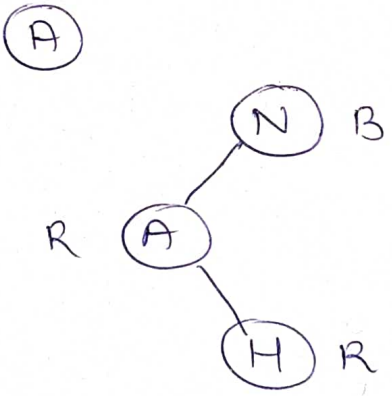
R : Red.

(i) Insert (N) : (N) B.

(ii) insert (A) :



(iii) Insert (H) : H can be inserted to the right of



Both, the child & parent are red also child is on right subtree so single left Rotation

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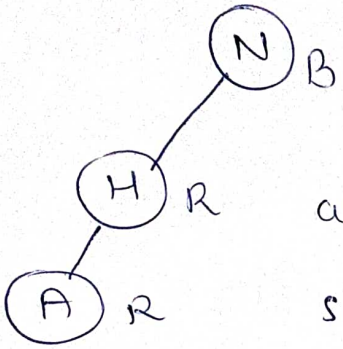
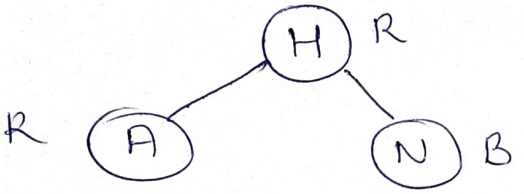
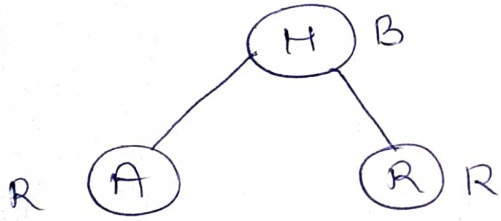


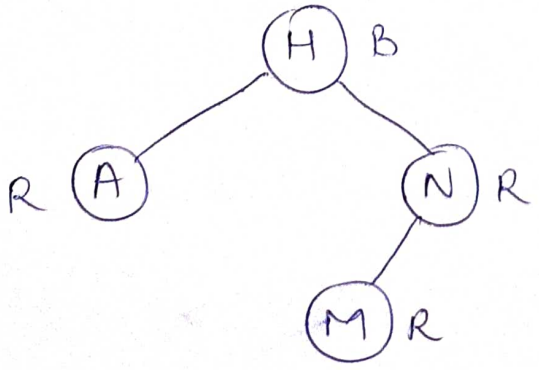
Now Both the parent & child are Red & child is on left subtree so Single Right Rotation.



Here, Root is Red so we have to do the recolouring.



(iv) Insert(M) : M can be inserted on left subtree of (N).



Here, Both parent & child are Red & child is on left subtree we can do the recolouring

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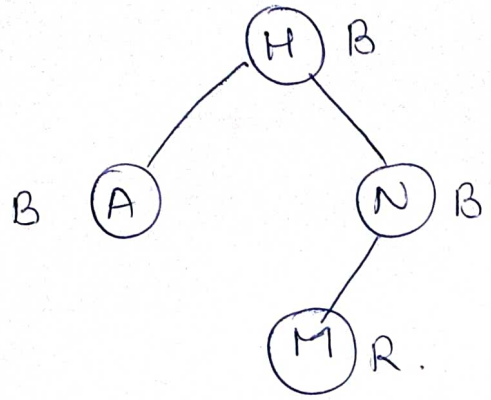
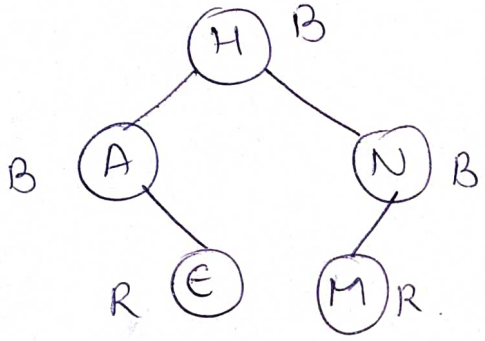
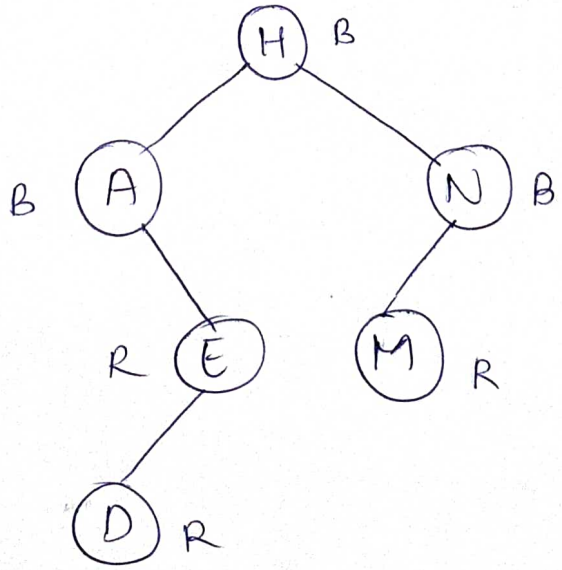


(v) Insert(E): can be inserted to the Right of (A).



NO, Red/Black tree property is voilated.

(vi) Insert(D): can be inserted to the left of (E).



Both parent & child are red & child is on left subtree.

Single left Rotation

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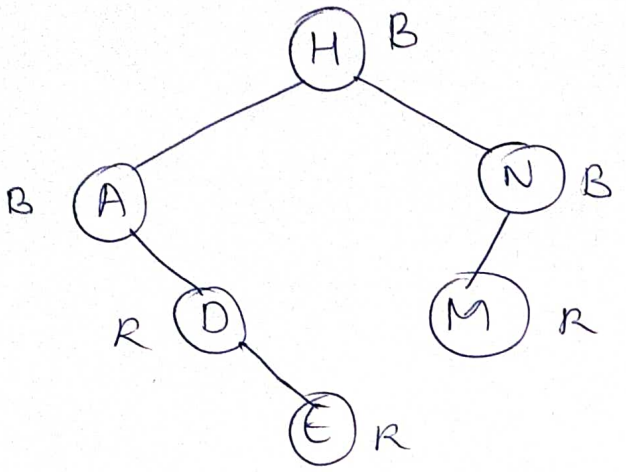
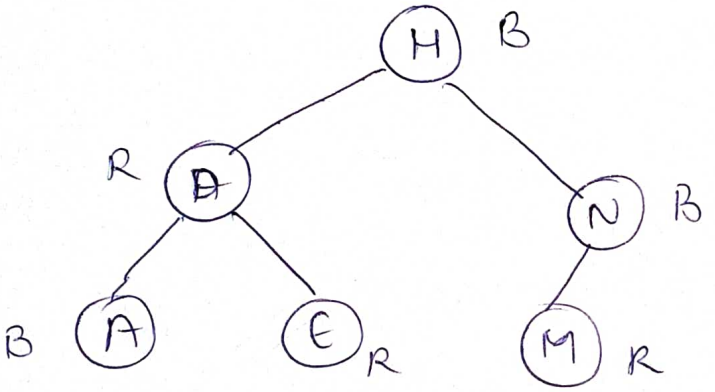
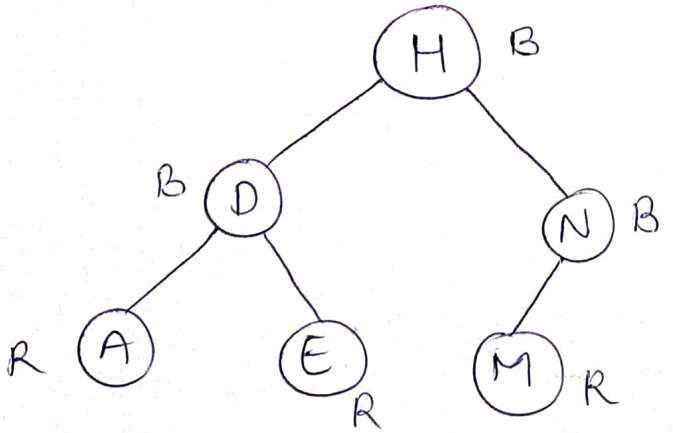


Now, parent & child both Red & child on Right subtree.

Now single Left Rotation



Now Recolouring has to be done.



$\Rightarrow$ Final Red/Black tree for NAHMED.

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Ads lab - viva.

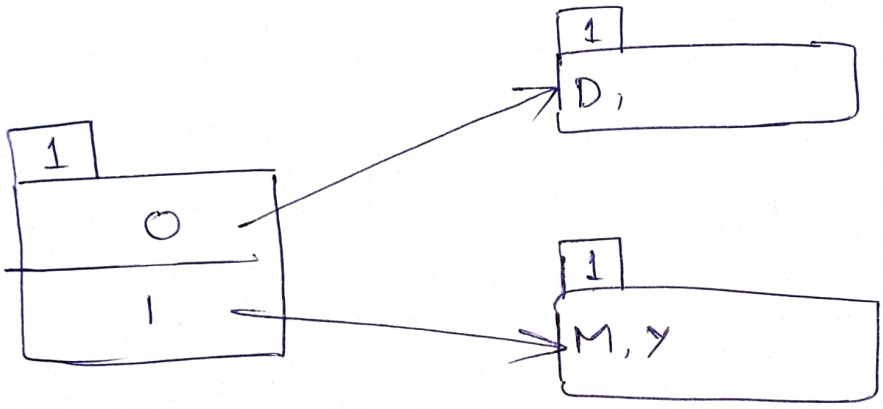
(2) Hash table using extendible hashing :

MD YASEEN AHMED.

First 7 character : MD YASEN.

Global Depth : 1 & local Depth : 1

Bucketsize : 2



M → 13 → 01101 → 2nd Bucket

D → 4 → 00100 → 1st "

Y → 25 → 11001 → 2nd "

A → 1 → 00001 → 2nd But collision

S → 19 → 10011

E → 5 → 00101

N → 14 → 01110

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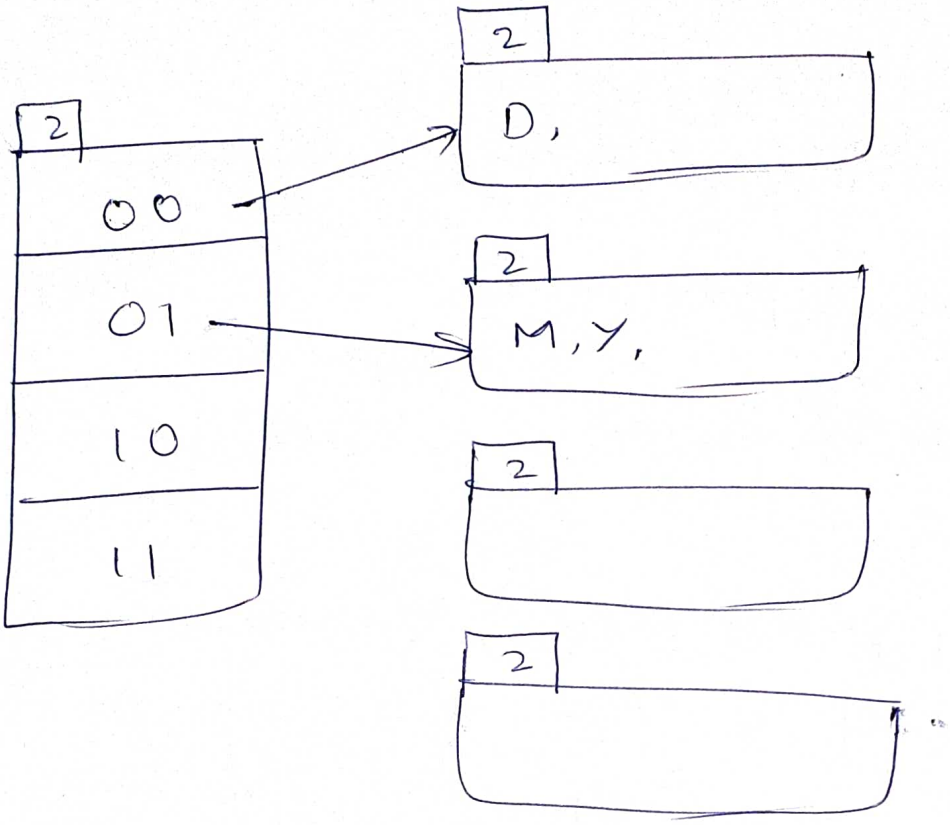

Inserting A, 3rd Bucket But collision occured