

ADS LAB

Delete (H) & Decrease Key(H) Function on Binomial Heap

// Decrease Key(H) Function

```
void decreaseKeyBHeap (node *H, int old_val, int new_val)
{
    node *node = findNode (H, old_val);

    if (node != &H)
    if (node == NULL)
        return;

    node -> val = new_val;
    node *parent = node -> parent;

    while (parent != NULL && node -> val < parent -> val)
    {
        swap (node -> val, parent -> val);
        node = parent;
        parent = parent -> parent;
    }
}
```

// Function to delete an element

```
node *BinomialHeapDelete (node *h, int val)
{
    if (h == NULL)
        return NULL;

    decreaseKeyBHeap (h, val, INT_MIN);
    return extractMinBHeap (h);
}
```

// Function Find node

Node * findNode (Node *h, int val)

{

if (h == NULL)

return NULL;

if (h->val == val)

return h;

Node *res = findNode (h->child, val);

if (res != NULL)

return res;

return findNode (h->sibling, val);

}