ADS LAB - 10

H.S. SATHWICK KARAN
1BM18CS050
5-B

⇒ PSEUDO CODE :-

```
Insert Function: (Input: head, key)

        Node *temp = newNode (key);
        list <Node*> t;
        t. push_back (temp);
        t = unionBH (_head);
        return adjust (t);
    }
adjust (list <Node*> heap) {
        if (heap.size <=1) return heap;
        list <Node*> new_heap;
        auto it1, it2, it3;
        it1 = it2 = it3 = heap.begin ();
        if (heap.size() ==2) {
                it2 = it1;
                it2++;
                it3 = heap.end();
        } else {
                it2++
                it3 = it2;
                it3++;
        } while (it1 != heap.end()) {
```

```
if (it2 == heap.end()) it1++;
    else if (it1->degree < it2->degree) {
        it1++, it2++;
        if (it3 != heap.end()) it3++;
    }
else if (*it1->degree == it2->degree) {
        Node *temp;
        it1 = merge (*it1, *it2);
        it2 = heap.erase(it2);
        if (it3 != heap.end()) it3++;
    }
    else if (it3 != heap.end() && it1->degree == it2->degree &&
                                  it->degree == *it3->degree) {
                                  *it++, it2++, it3++;
                                  }
    return heap;
}
Function Getmin (list <Node*> heap) {
    auto it = heap.begin();
    while (it != heap.end()) {
        if (**it->data < temp->data) temp = *it;
        ++it;
    }
```

```
⇒  lo = rem (temp);
   new.heap = union BH (new.heap, b);
   new.heap = adjust (new.heap);
   return new.heap;
}
```