

Implementation of Binary Heap

```
void InsertKey (int k) {
```

```
    if (heap-size == capacity) sort ("overflow");
```

```
    heap-size ++;
```

```
    int i = heap-size - 1;
```

```
    heap[i] = k;
```

```
    while (i != 0 && heap[parent(i)] > heap[i])
```

```
    {
```

```
        swap (heap[i], heap[parent(i)]);
```

```
        i = parent[i];
```

```
    }
```

```
}
```

```
int extractMin() {
```

```
    if (heap-size <= 0) return INT_MAX;
```

```
    if (heap-size == 1) {
```

```
        heap-size --;
```

```
        return heap[0];
```

```
    }
```

```
    int root = heap[0];
```

```
    heap[0] = heap[heap-size - 1];
```

```
    heap-size --;
```

```
    minheapify(0);
```

```
    return root;
```

```
}
```

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```
list<Node> unionBinomialHeap (list<Node> l1,  
                                list<Node> l2)
```

```
{
```

```
list<Node> -new;
```

```
list<Node>::iterator it = l1.begin();
```

```
list<Node>::iterator ot = l2.begin
```

```
while (it != l1.end() && ot != l2.end())
```

```
{
```

```
if ( (it != l1.end() && ot != l2.end())
```

```
-new.pushback(it)
```

```
it++;
```

```
}
```

```
else
```

```
{
```

```
-new.pushback(*ot);
```

```
ot++;
```

```
}
```

```
} return -new;
```

```
}
```