# insert - heapifyUp

```
1   template <class T>
2   void Heap<T>::_insert(const T & key) {
3     // Check to ensure there's space to insert an element
4     // ...if not, grow the array
5     if ( size_ == capacity_ ) { _growArray(); }
6
7     // Insert the new element at the end of the array
8     item_[++size] = key;
9
10    // Restore the heap property
11    _heapifyUp(size);
12  }
```

```
1   template <class T>
2   void Heap<T>::_heapifyUp( _____ ) {
3     if ( index > _____ ) {
4       if ( item_[index] < item_[ parent(index) ] ) {
5         std::swap( item_[index], item_[ parent(index) ] );
6         _heapifyUp( _____ );
7       }
8     }
9   }
```