In [1]:
```
def bubblesort(list):
    for iter_num in range(len(list)-1,0,-1):
        for idx in range(iter_num):
            if list[idx]>list[idx+1]:
                temp=list[idx]
                list[idx]=list[idx+1]
                list[idx+1]=temp
list=[20,5,15,7,90,50,1]
bubblesort(list)
print(list)
```

```
[1, 5, 7, 15, 20, 50, 90]
```

In [1]:
```
def merge_sort(unsorted_list):
    if len(unsorted_list) <= 1:
        return unsorted_list

    middle = len(unsorted_list) // 2
    left_list = unsorted_list[:middle]
    right_list = unsorted_list[middle:]

    left_list = merge_sort(left_list)
    right_list = merge_sort(right_list)
    return list(merge(left_list, right_list))


def merge(left_half,right_half):
    res = []
    while len(left_half) != 0 and len(right_half) != 0:
        if left_half[0] < right_half[0]:
            res.append(left_half[0])
            left_half.remove(left_half[0])
        else:
            res.append(right_half[0])
            right_half.remove(right_half[0])
    if len(left_half) == 0:
        res = res + right_half
    else:
        res = res + left_half
    return res
unsorted_list = [64, 34, 25, 12, 22, 11, 90]
print(merge_sort(unsorted_list))
```

```
[11, 12, 22, 25, 34, 64, 90]
```

In [2]:
```
def insertion_sort(InputList):
    for i in range(1, len(InputList)):
        j = i-1
        nxt_element = InputList[i]
# Compare the current element with next one
    while (InputList[j] > nxt_element) and (j >= 0):
        InputList[j+1] = InputList[j]
        j=j-1
        InputList[j+1] = nxt_element
    return InputList
list = [19,2,31,45,30,11,121,27]
print('sorted list:',insertion_sort(list))
print(list)
```

```
sorted list: [19, 2, 31, 45, 30, 11, 27, 121]
[19, 2, 31, 45, 30, 11, 27, 121]
```

In [ ]: