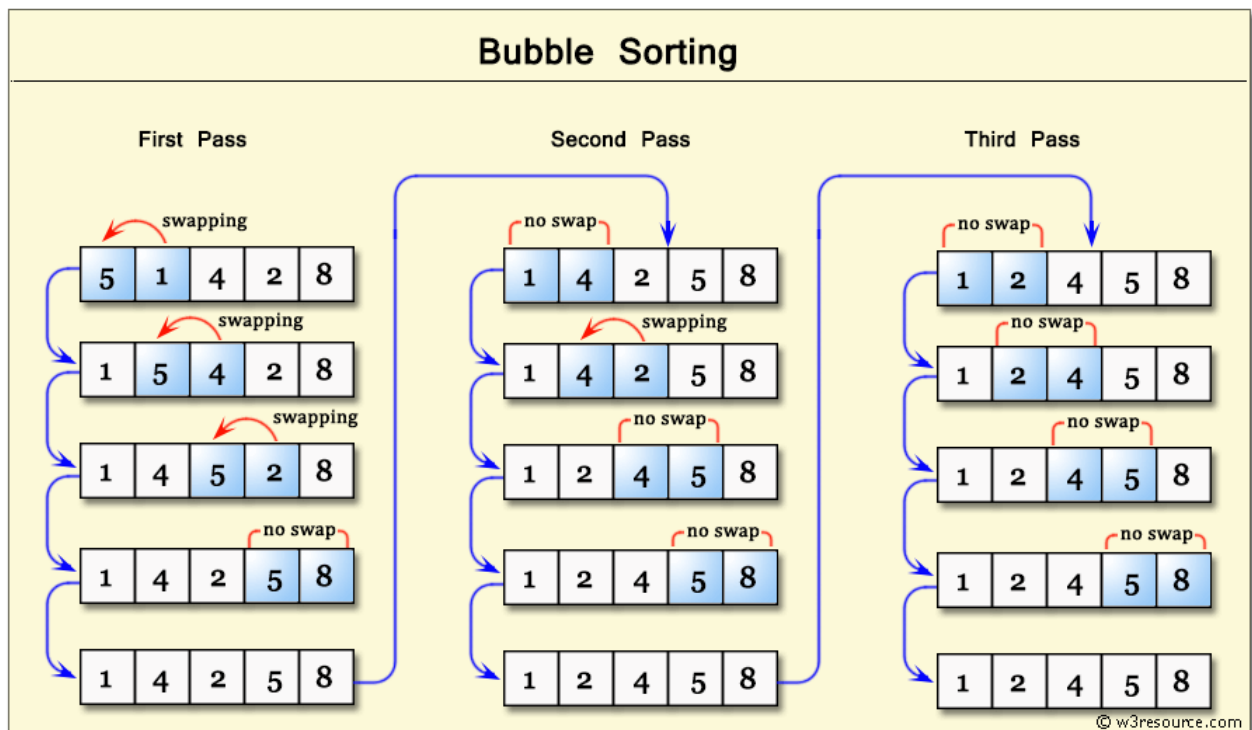


Bubble Sort Algorithm

What is an algorithm?

Algorithm is a step-by-step procedure for solving a problem or accomplishing some end especially by a computer

Bubble sort is a simple sorting algorithm that repeatedly steps through the list to be sorted, compares each pair of adjacent items and swaps them if they are in the wrong order. The pass through the list is repeated until no swaps are needed, which indicates that the list is sorted. The algorithm, which is a comparison sort, is named for the way smaller elements "bubble" to the top of the list.



```

presidents = [
    {'name': 'George H. W. Bush', 'number': 41},
    {'name': 'Bill Clinton', 'number': 42},
    {'name': 'George Washington', 'number': 1},
    {'name': 'Barak Obama', 'number': 44},
    {'name': 'George W Bush:', 'number': 43},
    {'name': 'Ronald Reagan', 'number': 40},
    {'name': 'John Adams', 'number': 2}
]

def bubbleSort (nlist):
    changed = True
    while changed:
        changed = False
        for i in range(0, len(nlist)-1):
            if (nlist[i]['number'] > nlist[i+1]['number']):
                nlist[i], nlist[i+1] = nlist[i+1], nlist[i]
                changed = True

print('unsorted')
print(presidents)
bubbleSort(presidents)
print('sorted')
print(presidents)

```

Exercises

1. Implement the bubble sort algorithm by substituting presidents with another list, for example school classes and grades. Sort by grade.
2. Implement the bubble sort algorithm using sort by name.