In [11]:
```
#Shopping cart link list
class Node:
    def __init__(self, item,qty,price):
        self.item = item
        self._next = None
        self.qty = qty
        self.price = price

    def __repr__(self):
        return str(self.item)+" "+str(self.qty)+" "+str(self.price)

class LinkedList:
    def __init__(self):
        self._head = None
        self._tail = None

    def __repr__(self):
        node = self._head
        nodes = []
        while node is not None:
            nodes.append(repr(node))
            node = node._next
#         nodes.append("None")
        return " -> ".join(nodes)

    def calculator(self):
        node = self._head
        cost = 0
        while node is not None:
            cost += node.qty*node.price
#             print(node.qty*node.price)
            node = node._next
        return cost

    def add_item(self,node):
        if not self._head:
            self._head = node
            self._tail = node
        else:
            self._tail._next = node
            self._tail = node

    def remove_item(self,target):
        node = self._head
        if node.item == target:
            self._head = node._next
            return
        while node._next is not None:
            if node._next.item == target:
                node._next = node._next._next
                return

# llist = LinkedList()
# first_node = Node("a")
# llist.head = first_node
# second_node = Node("b")
# third_node = Node("c")
# first_node.next = second_node
# second_node.next = third_node
# llist

ShoppingCart = LinkedList()
ShoppingCart.add_item(Node("Biscuits", 50, 1))
ShoppingCart.add_item(Node("Dishes", 150, 1))
ShoppingCart.add_item(Node("Soft Drinks", 100, 7))
ShoppingCart.add_item(Node("Ice Cream",15,25))
print(ShoppingCart)
ShoppingCart.remove_item("Dishes")
print(ShoppingCart)
print("The Total amount in cart to be paid is",ShoppingCart.calculator())
```

```
Biscuits 50 1 -> Dishes 150 1 -> Soft Drinks 100 7 -> Ice Cream 15 25
Biscuits 50 1 -> Soft Drinks 100 7 -> Ice Cream 15 25
The Total amount in cart to be paid is 1125
```

In [11]:
```
#Implementing a queue and sorting without extra space
def sort_queue(queue):
    for j in range(len(queue)-1):
        for i in range(len(queue)-1):
            if queue[i]>queue[i+1]:
#                 print(queue[i],queue[i+1])
                queue[i] = queue[i] + queue[i+1]
                queue[i+1] = queue[i] - queue[i+1]
                queue[i] = queue[i] - queue[i+1]
#                 print(queue[i],queue[i+1])

queue = []
queue.append(100)
queue.append(50)
queue.append(25)
queue.append(12)
queue.append(200)
queue.append(500)
sort_queue(queue)
print(queue)
```

```
[12, 25, 50, 100, 200, 500]
```