CSC 242
Exercise 3

Modify the **LinkedBag** class, so that it becomes a subclass of **AbstractBag**. Be sure to retain in **LinkedBag** only those methods that cannot be moved to **AbstractBag**.
Now create a class called **Ball** such that it maintains a **color** and **shape** and functionality that allows it to be displayed (**__str__**) so that the **color** and **shape** are identified. Write a driver program to test the full functionality of the modified **LinkedBag** class along with the newly created **Ball** class.
Here is a sample driver:

```
def main():
    aBag = LinkedBagSub()
    anotherBag = LinkedBagSub()
    print(len(aBag))
    ball1 = Ball("Red", "round")
    ball2 = Ball("Blue", "oval")
    ball3 = Ball("Green", "oblong")
    ball4 = Ball("Silver", "bubble")
    myBag = LinkedBagSub([ball1, ball2, ball3])
    print(myBag, "with length =", str(len(myBag)))
    myBag.clear()
    myBag.add(Ball("Purple", "super"))
    anotherBag.add(ball4)
    print(myBag, "with length =", str(len(myBag)))
    print(anotherBag, "with length =", str(len(anotherBag)))
    myBag += anotherBag
    print(myBag, "with length =", str(len(myBag)))
    for bagItem in myBag:
        print(bagItem)
    if ball4 in myBag:
        print("ball4 found in bag")
    if(myBag == aBag):
        print("bags equal")
    myBag.clear()
    aBag.clear()
    if(myBag == aBag):
        print("bags equal")
    myBag.add(ball4)
    print(myBag.isEmpty())
    myBag.remove(ball4)
    print(myBag.isEmpty())


if __name__ == '__main__':
    main()
```