```
Enter num cards. Number must be triangular
15
Starting configuration: [7, 3, 1, 3, 1]
[6, 2, 2, 5]
[5, 1, 1, 4, 4]
[4, 3, 3, 5]
[3, 2, 2, 4, 4]
[2, 1, 1, 3, 3, 5]
[1, 2, 2, 4, 6]
[1, 1, 3, 5, 5]
[2, 4, 4, 5]
[1, 3, 3, 4, 4]
[2, 2, 3, 3, 5]
[1, 1, 2, 2, 4, 5]
[1, 1, 3, 4, 6]
[2, 3, 5, 5]
[1, 2, 4, 4, 4]
[1, 3, 3, 3, 5]
[2, 2, 2, 4, 5]
[1, 1, 1, 3, 4, 5]
[2, 3, 4, 6]
[1, 2, 3, 5, 4]
It took only 19 tries to converge.
```

```java
public static void bulgarianSolitaire(int numCards) {

		// Check if given number of cards is triangular
		int n = (int) Math.sqrt(2*numCards);
		if (n*(n+1)/2 != numCards) {
			System.out.println(numCards + " is not triangular");
			return;
		}

		Random randNum = new Random();
```

```
		ArrayList<Integer> good = new ArrayList<Integer>();

		// initialize random array list
		ArrayList<Integer> realArray = new ArrayList<Integer>();
		initRandAL(realArray, numCards);

		int arraySize = 5;

		for (int i = 0; i <= numCards; i++) {
			good.add(i);
			numCards -= i;
		}
		removeZeros(good);

		int count = 0;

		System.out.println("Starting configuration: " + realArray);

		while (true) {

		for (int i = 0; i < realArray.size(); i++) {
			int val = realArray.get(i);
			val -= 1;
			realArray.set(i, val);
		}
		count++;
		realArray.add(realArray.size());
		removeZeros(realArray);
		System.out.println(realArray);
		if (realArray.containsAll(good) && realArray.size() == good.size()) {
			break;
		}
	}
		System.out.println("It took only" + " " + count + " " + "tries to converge.");

}

	public static void removeZeros(ArrayList<Integer> array) {
		for (int i = 0; i < array.size(); i++) {
			if (array.get(i) == 0) {
				array.remove(i);
				i--;
			}
```

```
        }
    }

    public static void initRandAL(ArrayList<Integer> myList, int numCards) {
        int sum = 0;
        Random randy = new Random();
        while (sum != numCards) {
            int nextInt = randy.nextInt(1, numCards + 1 - sum);
            myList.add(nextInt);
            sum += nextInt;
        }

    }

    public static void printAL(ArrayList<Integer> myList) {
        for (int num: myList) {
            System.out.println(num + " ");
        }
    }
```