

```
1 import java.util.ArrayList;
2 import java.util.Random;
3 import java.util.Scanner;
4
5 public class bulgariansolitaire {
6
7     public static void main(String[] args) {
8         Scanner scandy = new Scanner(System.in);
9         System.out.println("Enter a triangular number.");
10        int numCards = scandy.nextInt();
11        scandy.close();
12        bulgarianSolitaire(numCards);}
13
14    public static void bulgarianSolitaire(int numCards) {
15
16        // Check if given number of cards is triangular
17        int n = (int) Math.sqrt(2 * numCards);
18        if (n * (n + 1) / 2 != numCards) {
19            System.out.println(numCards + " is not triangular");
20            return;
21        }
22        Random randy = new Random();
23
24        ArrayList<Integer> solitaire = new ArrayList<Integer>();
25        int count = 0;
26
27        while (count < numCards) {
28            int num = randy.nextInt(numCards - count) + 1;
29            count = count + num;
30            solitaire.add(num);
31        }
32
33        ArrayList<Integer> end = new ArrayList<Integer>();
34        int cardsLeft = numCards;
35        for (int i = 1; i <= cardsLeft; i++) {
36            end.add(i);
37            cardsLeft = cardsLeft - i;
38        }
39
40        while (!solitaire.containsAll(end)) {
41            int counter = 0;
42            for (int i = solitaire.size() - 1; i >= 0; i--) {
43                if (solitaire.get(i) != 0) {
44                    int num = solitaire.get(i) - 1;
45                    solitaire.set(i, num);
46                    counter++;
47                } else {
48                    solitaire.remove(i);
49                }
50            }
51            solitaire.add(counter);
52            System.out.println(solitaire);
53        }
54    }
55
56    }
57
58 }
```

bulgariansolitaire.java

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```
59     }
60
61     System.out.println("You reached the end!");
62 }
63 }
64
```