

```
1 public static void bulgarianSolitaire(int numCards) {
2     Random randy = new Random();
3     ArrayList<Integer> cards = new ArrayList<Integer>();
4     ArrayList<Integer> cardsNeeded = new ArrayList<Integer>();
5     int n = (int) Math.sqrt(2*numCards);
6     if (n*(n+1)/2 != numCards) { // Check if given number of cards is triangular
7         System.out.println(numCards + " is not triangular");
8         return;
9     }
10    for (int sum = 0; sum<numCards; sum+=cards.get(0)) //generates a random number of piles
11        cards.add(0,randy.nextInt(numCards-sum)+1);
12    System.out.println("Beginning groups: " + cards);
13    int integer=1;
14    for (int sum=0; sum<numCards; sum+=integer) { //determines size of piles needed in cards
15        cardsNeeded.add(integer);
16        integer++;
17    }
18    System.out.println("Piles needed: " + cardsNeeded);
19    int count = 0;
20    while (!(cards.containsAll(cardsNeeded))) { //repeats until all appropriate pile sizes c
21        int cardsNewPile = 0;
22        for (int i=cards.size()-1; i>=0; i--) { //removes 1 from all piles
23            cards.set(i,cards.get(i)-1);
24            cardsNewPile++;
25        }
26        cards.add(cardsNewPile); //adds a new pile at the end of the array
27        cards.removeAll(Collections.singletonList(0));
28        count++;
29        System.out.println("Move " + count + ": " + cards);
30    }
31    System.out.println("The game finished! It took " + count + " moves.");
32 }
```