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import java.util.ArrayList;
import java.util.Random;
import java.util.Collections;
import java.util.Scanner;
public class BulgarianSolitaire {

    public static void main(String[] args) {

        Scanner scan = new Scanner(System.in);
        System.out.println("Enter a number of starting cards:");
        int numCards=scan.nextInt();
        scan.close();
        bulgarianSolitaire(numCards);

    }

    public static void bulgarianSolitaire(int numCards) {
        Random ran = new Random();
        // 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;}
        ArrayList<Integer> zero = new ArrayList<>();
zero.add(0);
        ArrayList<Integer> hand = new ArrayList<>();
        int leftover = numCards;
        while(leftover>0)
        {int piles = ran.nextInt(leftover)+1;
        hand.add(piles);
        leftover -= piles;}

        ArrayList<Integer> new1 = new ArrayList<Integer>();
        for (int i=1; i<=(-1+Math.sqrt(1+8*numCards))/2; i++) {
            new1.add(i);}
        int nc=0;
        int count=0;
        Collections.sort(hand);
        Collections.sort(new1);

        while (!hand.equals(new1))
            {for(nc=hand.size()-1;nc>=0;nc--) {
                if (hand.get(nc)> 0) {
                    hand.set(nc, hand.get(nc)-1);
                    count++;
                }
                else
                {hand.remove(nc);}
            }
            hand.add(count);
            hand.removeAll(zero);
            Collections.sort(hand);
            {System.out.println(hand);}
        }
    }
}

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count=0;
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    }    }    }
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