

```
1 package edu.neu.coe.info6205.union_find;
2
3 import java.util.*;
4 public class UFCClient {
5
6     public static int count(int n){
7
8         int m_count = 0;
9         UF_HWQUPC ufh = new UF_HWQUPC(n);
10        Random m_random = new Random();
11
12        while(ufh.components() > 1){
13            int m1 = m_random.nextInt(n);
14            int m2 = m_random.nextInt(n);
15
16            ufh.connect(m1,m2);
17            m_count++;
18        }
19        return m_count;
20    }
21
22    public static void main(String[] args) {
23        System.out.println("Input: ");
24
25        Scanner scanner = new Scanner(System.in);
26
27        int m_input = scanner.nextInt();
28
29        System.out.println("Objects: " + m_input +
30        "\n" + "Collections: " + count(m_input) + "\n");
31
32        for(int i=1000; i<1000000; i*=2){
33            int m_total = 0;
34            for(int j=0; j<100; j++){
35                m_total += count(i);
36            }
37            System.out.println("Objects: " + i + "\n" +
38            "Pairs: " + m_total/100 + "\n");
39        }
40    }
41 }
```