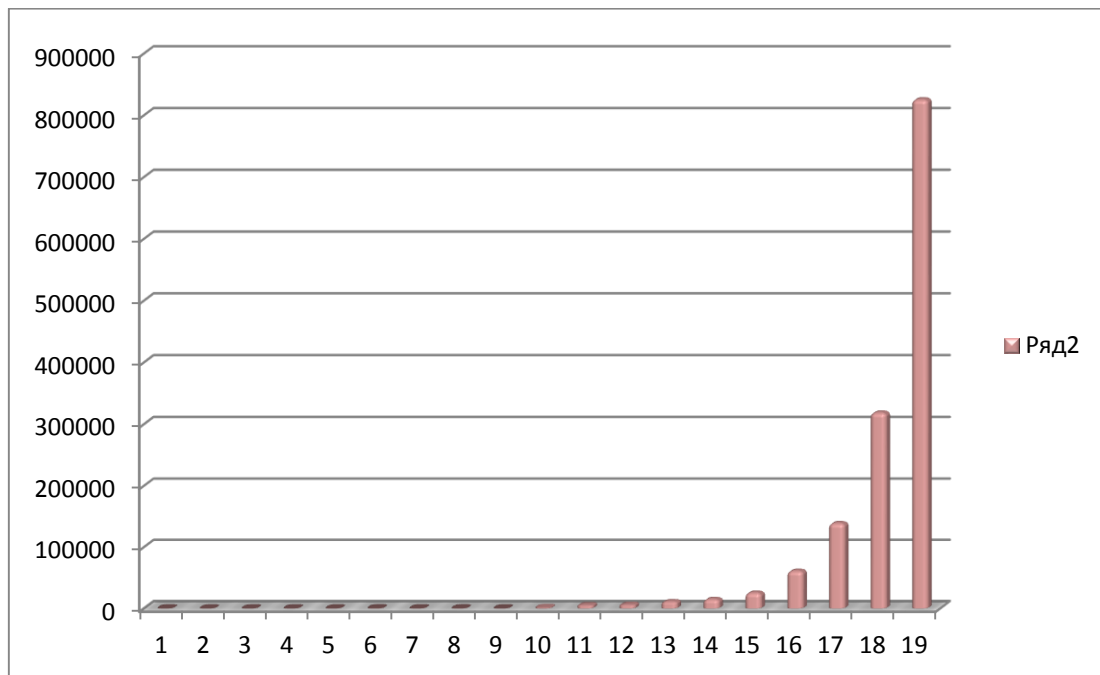
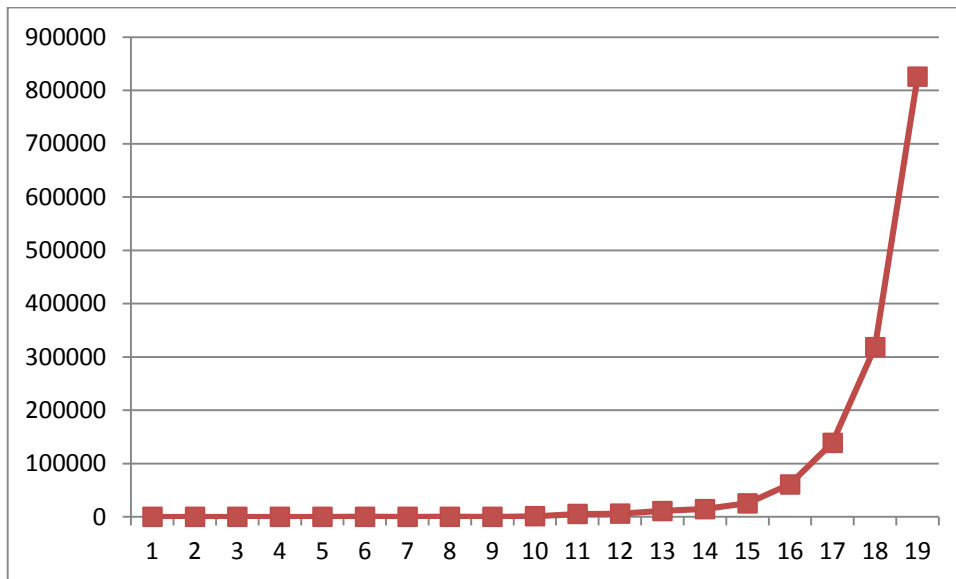


Task 5
Student – Polina Rachkovskaya
 Algorithm

1. Generate 2,3 ...20 bits pin code
2. Find this pin code using random
3. Count number of attempts to find success result for each pin code

Results:



Size of pin code	Number of attempts to find success result
2	1
3	12
4	2
5	10
6	116
7	355
8	164
9	254

10	108
11	1242
12	5567
13	6247
14	11150
15	14923
16	25467
17	61094
18	138992
19	318690
20	825678

Code:

```

class Program{
    static void Main(string[] args){
        List<int> average = new List<int>();
        Class cl = new Class();
        int i = 0;
        average.Add(cl.GeAverage());
        while(i++ < 19){
            cl.Generation();
            average.Add(cl.GeAverage());}
        public class Class{
            List<int> chromosoma = new List<int>();
            List<int> steps = new List<int>();
            Random rnd = new Random();
            public Class(){
                chromosoma.Add(rnd.Next(0, 2));
                chromosoma.Add(rnd.Next(0, 2));
                var item = new List<int>();
                for (int j = 0; j < 10; j++){
                    int step = 1;
                    while (true){
                        for (int i = 0; i < chromosoma.Count; i++){item.Add(rnd.Next(0, 2));}
                        if (item.SequenceEqual(chromosoma)){break;}
                        else{item = new List<int>();step++;}}steps.Add(step);}}
                public int GeAverage(){return (int)steps.Average();}
                public void Generation(){
                    var item = new List<int>();
                    chromosoma.Add(rnd.Next(0, 2));
                    for (int j = 0; j < 10; j++){
                        int step = 1;
                        while (true){
                            for (int i = 0; i < chromosoma.Count; i++){
                                item.Add(rnd.Next(0, 2));}
                            if (item.SequenceEqual(chromosoma)){break;}
                            else{item = new List<int>();step++;}}
                                steps.Add(step);}}}}

```