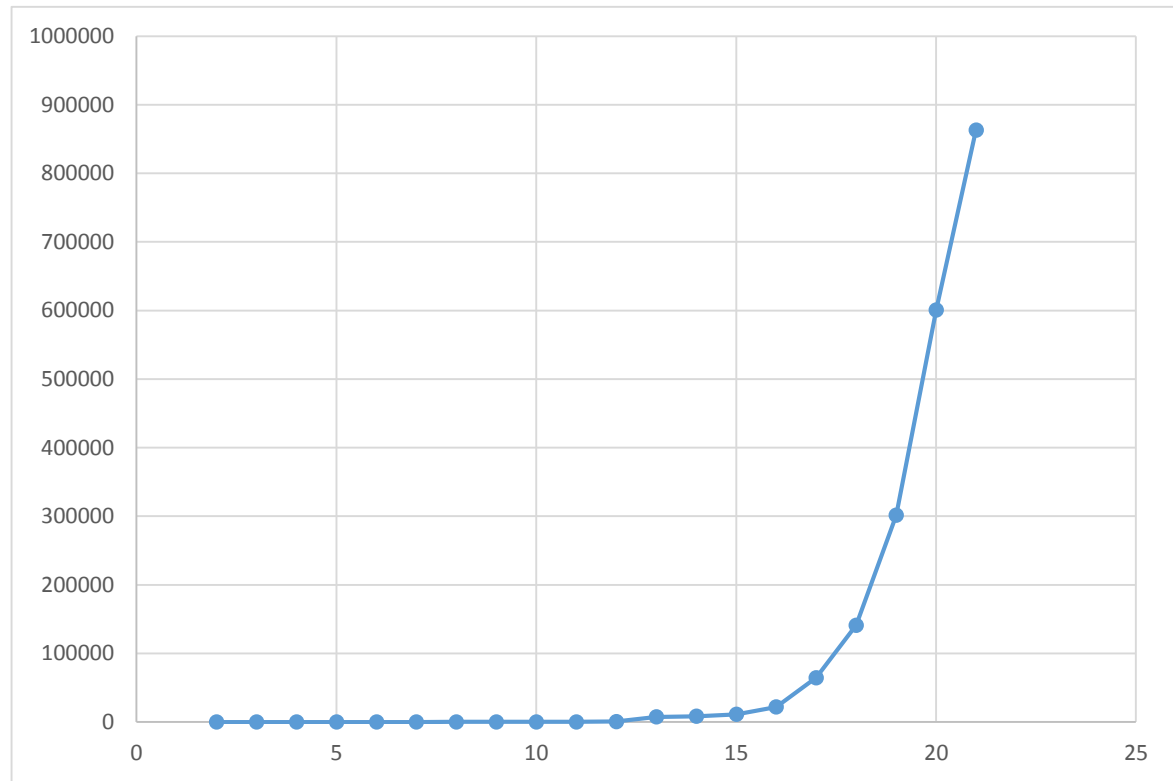


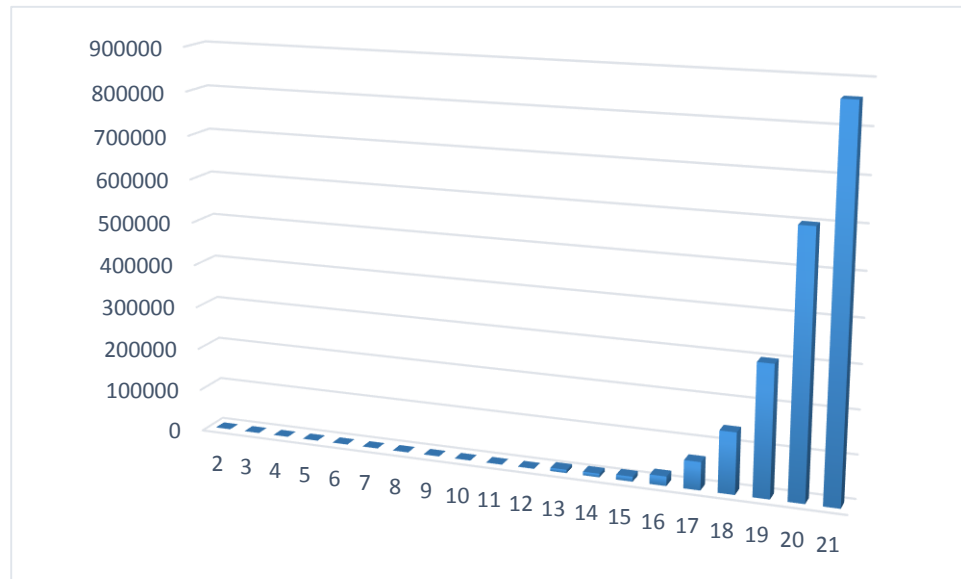
Task 5

Kravchuk Maxim

- 1-Generate 2,3,4...20 bits pin code
- 2-Find this pin using random
- 3-Count steps to find success result for each pin

Length pin	Avg count tries
2	1
3	0
4	3
5	61
6	1
7	68
8	155
9	282
10	280
11	309
12	670
13	7566
14	8383
15	11275
16	21834
17	64664
18	141275
19	301588
20	600940
21	862896





Code:

```
ofstream file("text.txt", ios::out);

srand(time(NULL));
for (int length = 2; length < 21; length++)
{
    vector<int> result;
    for (int i = 0; i < length; i++)
    {
        int b = rand() % 20;
        if (b < 10)
        {
            result.push_back(0);
        }
        else
            result.push_back(1);
    }

    int k = 0;
```

```

int step = 0;
while (k < 10)
{
    step++;
    vector<int> tmp;
    for (int i = 0; i < length; i++)
    {
        int b = rand() % 20;
        if (b < 10)
        {
            tmp.push_back(0);
        }
        else
            tmp.push_back(1);
    }
    if (result == tmp)
    {
        file << step << endl;
        step = 0;
        k++;
        result.clear();
        for (int i = 0; i < length; i++)
        {
            int b = rand() % 20;
            if (b < 10)
            {
                result.push_back(0);
            }
            else
                result.push_back(1);
        }
    }
}
file << "_____ " << endl;
}
}

```