

Source code

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace random
{
    class Program
    {
        static void Main(string[] args)
        {
            var password = new List<int>();
            var randomPassword = new List<int>();
            Random rnd = new Random(DateTime.Now.Millisecond);
            //1-st
            password.Add(rnd.Next(2));
            password.Add(rnd.Next(2));

            int count = 2;
            int generationCount = 10;
            int i, j;

            while (count <= 20)
            {
                Console.WriteLine($"Attempt for {count} digits");
                //password generation
                password.Clear();
                i = 0;
                while (i < count)
                {
                    password.Add(rnd.Next(2));
                    i++;
                }

                i = 0;

                //10-tries
                var attempts = new List<int>();
                int attemptCount = 0;

                while (i < generationCount)
                {
                    //Console.WriteLine($"{i + 1} generation");
                    j = 0;

                    //random password generation
                    while(j < count)
                    {
                        randomPassword.Add(rnd.Next(2));
                        j++;
                    }
                    //compare
                    bool success = true;

                    for(int k = 0; k < count; k++)
                    {
                        if (password.ElementAt(k) != randomPassword.ElementAt(k))
                            success = false;
                    }
                }
            }
        }
    }
}
```

```

        // if success
        attemptCount++;
        randomPassword.Clear();
        if (success)
        {
            attempts.Add(attemptCount);
            attemptCount = 0;
            i++;
        }
        else continue;
    }
    Console.WriteLine(attempts.Sum() / 10);
    count++;
}
}
}
}
}

```

Results

Attempt for 2 digits

2

Attempt for 3 digits

4

Attempt for 4 digits

5

Attempt for 5 digits

30

Attempt for 6 digits

79

Attempt for 7 digits

156

Attempt for 8 digits

385

Attempt for 9 digits

396

Attempt for 10 digits

1232

Attempt for 11 digits

1644

Attempt for 12 digits

4590

Attempt for 13 digits

9073

Attempt for 14 digits

5980

Attempt for 15 digits

32592

Attempt for 16 digits

56577

Attempt for 17 digits

140291

Attempt for 18 digits

243627

Attempt for 19 digits

545606

Attempt for 20 digits

1012172

Для продолжения нажмите любую клавишу . . .

Digits	Average
2	2
3	4
4	5
5	30
6	79
7	156
8	385
9	396
10	1232
11	1644
12	4590
13	9073
14	5980
15	32592
16	56577
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19	545606
20	1012172

