Author

[ravst](https://codefights.com/profile/ravst)

https://codefights.com/img/coins_new.png2000

You're given a number N. Find the smallest number greater than N which has the same number of active bits in it (i.e. the same number of 1s in its binary representation).

**Examples:**

* For N = 1 the output should be  
  nextNumber(N) = 2.

Both 1 and 2 have 1 active bit.

* For N = 3 the output should be  
  nextNumber(N) = 5.

Both 3 and 5 have 2 active bits.

**Input/Output**

* **[time limit] 3000ms (cs)**
* **[input] integer N**

*Constraints:*  
1 ≤ n ≤ 109.

* **[output] integer**

The smallest integer greater than N which has the same number of active bits.

<https://codefights.com/challenge/fE4DJSQmFQEWrdYwp/main>

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace ConsoleApplication1

{

class Program

{

static int nextNumber(int N)

{

int c =N;

int unosN = 0;

while (c > 0)

{

if (c % 2 == 1)

{

unosN++;

}

c /= 2;

}

for (int i = N + 1; ; i++)

{

int contUnos = 0;

c = i;

while (c > 0)

{

if (c % 2 == 1)

{

contUnos++;

}

c /= 2;

}

if (contUnos == unosN)

{

return i;

}

}

}

static void Main(string[] args)

{

Console.WriteLine(nextNumber(1));

Console.ReadLine();

}

}

}