Given an unsigned int n, find the integer greater than or equal to n which is a power of 2. For example:

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>64</td>
<td>64</td>
</tr>
</tbody>
</table>

**Answer:**

The power of 2 will only have one bit set in its binary representation. We just have to find a number greater than n with only one bit set in its binary representation. We can find so by right-shifting ‘1‘ till it becomes greater than n.

if n = 6 (110)

1 < 110
Hence 1000, or 8 is the answer (which is greater than 110 or 6).

```c
unsigned int nextPowerOfTwo(unsigned int n)
{
    unsigned int result = 1;

    // If n is a power of 2 then return n itself
    if (n && !(n & (n - 1)))
        return n;

    while (result < n)
        result <<= 1;

    return result;
}
```

Source: http://www.ritambhara.in/next-greater-power-of-2/