3 Questions   Total Marks: 600.0

3 Programming Questions

| 1. Weekend planning | + 300.0 |

| 2. Beautiful numbers | + 100.0 |

| 3. playing with graphs! | + 200.0 |

Question 2   Max. Marks 100.00 ?

Beautiful numbers

Alex likes Numbers a lot, he defines beauty of a number via following function.

```
int getBeauty(long long number) {
    int beauty = 0;
    while (number > 0) {
        beauty += (number & 1);
        number = number/2;
    }
    return beauty;
}
```

you need to find minimum N such that sum of beauty of all numbers from 1 to N is atleast X.

Input:
First line consists of a single integer **T** denoting number of test cases.
Each test case consists of an integer **X**.

Output:
For each test print an answer N in a new line.

Input Constraints:

- $1 \leq T \leq 20000$
- $1 \leq X \leq 10^{18}$

Sample Input %	Sample Output %
2	7
11	4
5	

Explanation

For X = 5, answer will be 4, since beauty(1) + beauty(2) + beauty(3) + beauty(4) + beauty(5) = 6

Note: Your code should be able to convert the sample input into the sample output. However, this is not enough to pass the challenge, because the code be run on multiple test cases. Therefore, your code must solve this problem statement.

Time Limit: 1.5 sec(s) for each input file
Memory Limit: 256 MB
Source Limit: 1024 KB
Marking Scheme: Marks are awarded if any testcase passes
Allowed Languages: Bash, C, C++, C++14, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), TypeScript, Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, Racket, Ruby, Rust, Scala, Swift, Swift-4.1, Visual Basic

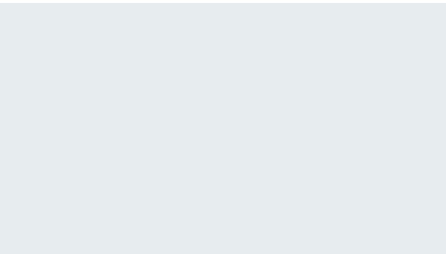| New Submission | All Submissions |

Java 8 (oracle 1.8.0_131) ▾   Save ↗ ⚙

```java
import java.util.*;

class TestClass {
    public static void main(String args[] ) throws Exception {

        Scanner s = new Scanner(System.in);
        String name = s.nextLine();                // Reading input from STDIN


    }
}
```

1:1

⚡ Press Ctrl/Command+Spacebar for autocomplete suggestions (accuracy dependent on connection stability).

⊡ Provide custom input

COMPILE & TEST   **SUBMIT**

Next Question ›

?

⚡ Press Ctrl/Command+Spacebar for autocomplete suggestions (accuracy dependent on connection stability).

⊡ Provide custom input

COMPILE & TEST   **SUBMIT**