1. **Collatz Sequence 1**

Take any positive non-zero integer **N**.

If **N** is even do **N / 2**,
If **N** is odd do **3 * N + 1**.

If we keep on doing the above steps every N, will reach 1 at one point. And the sequence formed by the number N to reach 1 is called as **Collatz Sequence**.

Examples: If **N** is 3, then the sequence would be

3 10 5 16 8 4 2 1

If **N** is 7, then the sequence would be

7 22 11 34 17 52 26 13 40 20 10 5 16 8 4 2 1

Now given a number **N**. Print the **Collatz Sequence formed by that number**.

Sample I/O:

Input 1:
3
Output 1:
3 10 5 16 8 4 2 1

Input 2:
7
Output 2:
7 22 11 34 17 52 26 13 40 20 10 5 16 8 4 2 1

Input 3:
27
Output 3:
27 82 41 124 62 31 94 47 142 71 214 107 322 161 484 242 121 364 182 91 274 137 412 206 103 310 155 466 233 700 350 175 526 263 790 395 1186 593 1780 890 445 1336 668 334 167 502 251 754 377 1132 566 283 850 425 1276 638 319 958 479 1438 719 2158 1079 3238 1619 4858 2429 7288 3644 1822 911 2734 1367 4102 2051 6154 3077 9232 4616 2308 1154 577 1732 866 433 1300 650 325 976 488 244 122 61 184 92 46 23 70 35 106 53 160 80 40 20 10 5 16 8 4 2 1

2. **Happy New Year**

It's 31st December 2022, and you are eagerly waiting to say welcome to the New Year.

You know that currently the clock shows ***h*** hours and ***m*** minutes, where 0 <= ***h*** < 24 and 0 <= ***m*** < 60. *We use 24-hour format!*

Your task is to **find number of mintues before New Year**. You know that the New Year comes when the clock shows *0 hours and 0 mintues*.

Input Format:
The only line of input contains ***h*** and ***m*** as discussed in the problem statement.

Note: It is guaranteed that the time given as input is **not midnight**.

Output Format:
Print the answer, the number of minutes before New Year.

Sample I/O:

Input 1:
23 55
Output 1:
5

Input 2:
23 0
Output 2:
60

Input 3:
0 1
Output 3:
1439

Input 4:
4 20
Output 4:
1180

Input 5:
13 47
Output 5:
613

Explanation:
For Input 1,
The time is already 23:55, so we only need to wait for 5 more minutes to say hi to the New Year

For Input 3,
We have to wait for almost a day (a minute less) to greet the New Year with joy.

3. Climbing Up

Tom is currently standing at stair 0 and he wants to reach stair numbered **X**.

He can climb either **Y** steps or **1** step in one move.

Find the **minimum** number of moves required by him to reach **exactly** the stair numbered **X**.

Input Format:

Only line of input consists of two integers **X** and **Y** denoting the number of the stair Tom wants to reach and the number of stairs he can climb in one move respectively.

Output Format:

Output the **minimum** number of moves required by Tom to reach **exactly** the stair numbered **X**.

Constraints:

- **1 ≤ X, Y ≤100**

Sample I/O:

Input 1:
4 2
Output 1:
2

Input 2:
8 3
Output 2:
4

Input 3:
3 4
Output 3:
3

Input 4:
19 5
Output 4:
7

Explanation:

For Input 1, Tom can make 2 moves and climb 2 steps in each move to reach stair numbered 4.

For Input 2, Tom can make a minimum of 4 moves. He can climb 3 steps in 2 of those moves and 1 step in remaining 2 moves to reach stair numbered 8.

For Input 3, Tom can make 3 moves and climb 1 step in each move to reach stair numbered 3. Notice that even though he can make a move in which he can climb 4 steps at a time, he doesn't reach the **exact stair number** he has to.