

Contest Duration: 2025-08-24(Sun) 22:00 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250824T2100&p1=248>) - 2025-08-24(Sun) 23:40 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250824T2240&p1=248>) (local time) (100 minutes)

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## G - $\sqrt{n^2 + n + X}$

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Time Limit: 2 sec / Memory Limit: 1024 MiB

Score : 575 points

### Problem Statement

You are given an integer  $X$ .

Find all integers  $n$  such that  $\sqrt{n^2 + n + X}$  is an integer.

### Constraints

- $-10^{14} \leq X \leq 10^{14}$
- The input value is an integer.

### Input

The input is given from Standard Input in the following format:

$X$

### Output

Let  $N_1, N_2, \dots, N_K$  be the integers  $n$  such that  $\sqrt{n^2 + n + X}$  is an integer, listed in ascending order (where  $K$  is the number of  $n$  satisfying the condition). Output 2025-08-24 01:01 (Fri)  
05:29:13 +11:00

following format:

*K*

*N*<sub>1</sub> *N*<sub>2</sub> ... *N*<sub>*K*</sub>

## Sample Input 1

[Copy](#)

4

[Copy](#)

## Sample Output 1

[Copy](#)

4

-4 -1 0 3

[Copy](#)

There are four integers *n* such that  $\sqrt{n^2 + n + 4}$  is an integer: *n* = -4, -1, 0, 3.

## Sample Input 2

[Copy](#)

-10000

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## Sample Output 2

[Copy](#)

8

-10001 -773 -593 -101 100 592 772 10000

[Copy](#)

## Sample Input 3

[Copy](#)

20250824

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## Sample Output 3

[Copy](#)

8

-20250824 -4050164 -13304 -884 883 13303 4050163 20250823

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'#telegram)

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2026-01-02 (Fri)  
05:29:13 +11:00

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