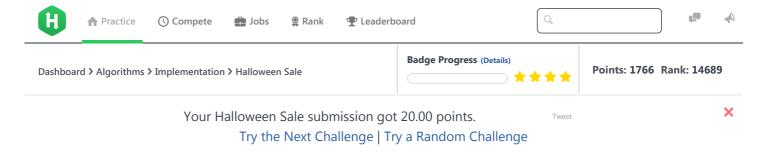
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Halloween Sale



Problem Submissions Leaderboard Discussions Editorial

You wish to buy video games from the famous online video game store Mist.

Usually, all games are sold at the same price, p dollars. However, they are planning to have the seasonal Halloween Sale next month in which you can buy games at a cheaper price. Specifically, the first game you buy during the sale will be sold at p dollars, but every subsequent game you buy will be sold at exactly d dollars less than the cost of the previous one you bought. This will continue until the cost becomes less than or equal to m dollars, after which every game you buy will cost m dollars each.

For example, if p=20, d=3 and m=6, then the following are the costs of the first 11 games you buy, in order:

You have \boldsymbol{s} dollars in your Mist wallet. How many games can you buy during the Halloween Sale?

Input Format

The first and only line of input contains four space-separated integers p, d, m and s.

Constraints

- $1 \le m \le p \le 100$
- $1 \le d \le 100$
- $1 \le s \le 10^4$

Output Format

Print a single line containing a single integer denoting the maximum number of games you can buy.

Sample Input 0

20 3 6 80

Sample Output 0

6

Explanation 0

We have p=20, d=3 and m=6, the same as in the problem statement. We also have s=80 dollars. We can buy 6 games since they cost 20+17+14+11+8+6=76 dollars. However, we cannot buy a 7th game. Thus, the answer is 6.

Sample Input 1

20 3 6 85

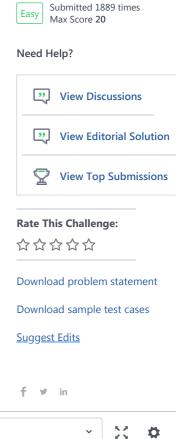
Sample Output 1

3/31/2018 HackerRank

7

Explanation 1

This is the same as the previous case, except this time we have s=85 dollars. This time, we can buy 7 games since they cost 20+17+14+11+8+6+6=82 dollars. However, we cannot buy an 8th game. Thus, the answer is 7.



```
Current Buffer (saved locally, editable) & 🗗
                                                                                       C++14
 1 ▼ #include <iostream>
 3 int main()
 4 ▼ {
 5
         int price, doller, minDoller, total;
 6
         std::cin >> price >> doller >> minDoller >> total;
 7
 8
         int maxGame = 0;
 9
         int dollerSum = 0;
10
         while(dollerSum <= total)</pre>
11 ▼
             dollerSum += price;
12
13
             maxGame++;
             (price-doller >= minDoller) ?
14
15
                 price -= doller: price = minDoller;
16
         std::cout << maxGame-1 << std::endl;</pre>
17
18
         return 0;
19
    }
20
                                                                                                                Line: 20 Col: 1
```

```
<u>↑ Upload Code as File</u> Test against custom input
```

Congrats, you solved this challenge!

Challenge your friends: **f y** in

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✓ Test Case #0	✓ Test Case #1	✓ Test Case #2
✓ Test Case #3	✓ Test Case #4	✓ Test Case #5
✓ Test Case #6	✓ Test Case #7	✓ Test Case #8
✓ Test Case #9	✓ Test Case #10	✓ Test Case #11
✓ Test Case #12	✓ Test Case #13	✓ Test Case #14
✓ Test Case #15	✓ Test Case #16	✓ Test Case #17
✓ Test Case #18	✓ Test Case #19	✓ Test Case #20
✓ Test Case #21	✓ Test Case #22	✓ Test Case #23
✓ Test Case #24	✓ Test Case #25	✓ Test Case #26
✓ Test Case #27	✓ Test Case #28	✓ Test Case #29
✓ Test Case #30	✓ Test Case #31	✓ Test Case #32
✓ Test Case #33	✓ Test Case #34	✓ Test Case #35
✓ Test Case #36	✓ Test Case #37	✓ Test Case #38
✓ Test Case #39	✓ Test Case #40	✓ Test Case #41
✓ Test Case #42	✓ Test Case #43	✓ Test Case #44
✓ Test Case #45	✓ Test Case #46	✓ Test Case #47
✓ Test Case #48	✓ Test Case #49	✓ Test Case #50
✓ Test Case #51		
	١	You've earned 20.00 points. Next Challenge

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