Skip A Level

Alex has to complete a multi-level game. Each level has an entry fee that needs to be paid before starting the level. After each level, Alex receives a point. Alex has to play levels in the given order and can skip at most one level.

Given the initial amount in Alex's wallet *k*, the number of levels in the game, *n* and the cost of each level, *costs*. Find the maximum points Alex can collect.

Note: It is not compulsory to complete all the levels

****Example****

*k = 14*

*n = 5*

*costs = [2, 4,1, 8, 6]*

Completing 5 levels without skipping any level, entry fees = 2 + 4 + 1 + 8 + 6 = 21 > *k*

Completing 5 levels while skipping the 4th level, entry fees = 2 + 4 + 1 + 6 = 13 *≤ k,* points collected = 4, as levels 1, 2, 3 and 5 were completed.

It can be proven that you cannot collect more than 4 points. Hence the answer is 4.

**Function Description**

Complete the function *maximumPoints* in the editor below.

*maximumPoints* has the following parameter(s):

*int k:* the initial number of coins in Alex's wallet

*int costs[n]:*  the costs of each level

****Returns****

*int:* the maximum number of points Alex can collect after skipping at most one level

**Constraints**

* *1 ≤ k ≤ 109*
* *1 ≤ n ≤ 105*
* *1 ≤ costs[i] ≤ 109*

Input Format For Custom Testing

The first line contains an integer, *k*, the initial number of coins in Alex's wallet.

The second line contains an integer, *n*, the size of the array *costs*.

Each line *i* of the *n* subsequent lines (where 1 *≤ i ≤ n*) contains an integer that describes costs*[i]*.

Sample Case 0

**Sample Input For Custom Testing**

STDIN    FUNCTION

-----   --------

10   → k = 10

5 → n = 5

5 → costs = [5, 2, 3, 1, 4]

2

3

1

4

10

5

5

2

3

1

4

**Sample Output**

4

**Explanation**

Completing 5 levels without skipping any level, entry fees = 5 + 2 + 3 + 1 + 4 = 15 > *k*

Completing 5 levels and skipping the 4th level, entry fees = 5 + 2 + 3 + 4 = 14 > *k*

Completing 5 levels and skipping the 4th level, entry fees = 2 + 3 + 1 + 4 = 10 *≤ k,* points collected = 4, as levels 2, 3, 4 and 5 were completed.

It can be proven that you cannot collect more than 4 points. Hence the answer is 4.

Sample Case 1

**Sample Input For Custom Testing**

STDIN    FUNCTION

-----   --------

15   → k = 15

6 → n = 6

3 → costs = [3, 2, 6, 4, 6, 1]

2

6

4

6

1

**Sample Output**

4

**Explanation**

Completing 6 levels without skipping any level, entry fees = 3 + 2 + 6 + 4 + 6 + 1 = 22 > *k*

Completing 5 levels and skipping the 3rd level, entry fees = 3 + 2 + 4 + 6 = 15 *≤ k,* points collected = 4, as levels 1, 2, 4 and 5 were completed.

It can be proven that you cannot collect more than 4 points. Hence the answer is 4.

import java.io.\*;

import java.math.\*;

import java.security.\*;

import java.text.\*;

import java.util.\*;

import java.util.concurrent.\*;

import java.util.function.\*;

import java.util.regex.\*;

import java.util.stream.\*;

import static java.util.stream.Collectors.joining;

import static java.util.stream.Collectors.toList;

class Result {

/\*

\* Complete the 'maximumPoints' function below.

\*

\* The function is expected to return an INTEGER.

\* The function accepts following parameters:

\* 1. INTEGER k

\* 2. INTEGER\_ARRAY costs

\*/

public static int maximumPoints(int k, List<Integer> costs) {

// Write your code here

}

}

public class Solution {

public static void main(String[] args) throws IOException {

BufferedReader bufferedReader = new BufferedReader(new InputStreamReader(System.in));

BufferedWriter bufferedWriter = new BufferedWriter(new FileWriter(System.getenv("OUTPUT\_PATH")));

int k = Integer.parseInt(bufferedReader.readLine().trim());

int costsCount = Integer.parseInt(bufferedReader.readLine().trim());

List<Integer> costs = IntStream.range(0, costsCount).mapToObj(i -> {

try {

return bufferedReader.readLine().replaceAll("\\s+$", "");

} catch (IOException ex) {

throw new RuntimeException(ex);

}

})

.map(String::trim)

.map(Integer::parseInt)

.collect(toList());

int result = Result.maximumPoints(k, costs);

bufferedWriter.write(String.valueOf(result));

bufferedWriter.newLine();

bufferedReader.close();

bufferedWriter.close();

}

}

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