Shopee Code League 2022 - Qualification Round

LIVE INVITE ONLY ACCESS

Mar 19, 2022, 02:00 PM WIB - Mar 19, 2022, 05:00 PM WIB

Fireworks Festival

Max. score: 100

Shopee will be hosting a fireworks festival along one of Singapore's main streets. The main street spans across ***N*** number of roads and the distance between each adjacent road is *1*.

The person-in-charge is expected to set off the fireworks for ***m*** times, with the ***i th*** time ($1 \leq i \leq m$) being set off at the timing ***ti*** along the road ***ai*** punctually. If you catch the ***i th*** firework at road ***x***

($1 \leq x \leq n$), then you will be able to receive ***bi-|ai-x|*** amount of free Shopee coins. Note that the amount of Shopee coins may be a negative value.

You are able to move ***d*** amount of distance within each unit of time without leaving the main street. Alternatively, you may also pick a random spot along the main street at the beginning of the festival (where time = *1*) to maximise your chances of gaining Shopee coins.

Note that the person-in-charge may concurrently set off two or more fireworks at one time.

Your aim is to strategise the best way to receive the highest amount of Shopee coins.

Input

The first row should feature three integers: ***n, m, d*** ($1 \leq n \leq 150000; 1 \leq m \leq 300; 1 \leq d \leq n$). For variable *m*, each row of input should include integers ***ai, bi, ti*** ($1 \leq a_i \leq n; 1 \leq b_i \leq 10^9; 1 \leq t_i \leq 10^9$). The *i th* row should feature the respective variables for the *i th* set off.

Note: It is ensured that the inputs fulfil the criteria of *ti ≤ ti+1* ($1 \leq i < m$).

Output:

To print an integer of the highest possible amount of Shopee coins.

SAMPLE INPUT

```
10 2 1
1 500 5
9 500 5
```

SAMPLE OUTPUT

```
992
```

Explanation

NA

Time Limit:	1.0 sec(s) for each input file.
Memory Limit:	256 MB
Source Limit:	1024 KB
Marking Scheme:	Score is assigned when all the testcases pass.
Allowed Languages:	Bash, C, C++, C++14, C++17, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, Java 14, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, Python 3.8, Racket, Ruby, Rust, Scala, Swift-4.1, Swift, TypeScript, Visual Basic

CODE EDITOR

Save | C (gcc 10.3)

```c
/*
// Sample code to perform I/O:
#include <stdio.h>

int main(){
      int num;
      scanf("%d", &num);                              // Reading input from STDIN
      printf("Input number is %d.\n", num);        // Writing output to STDOUT
}

// Warning: Printing unwanted or ill-formatted data to output will cause the test cases to fail
*/

// Write your code here

```

1:1 vscode

Test against custom input | Compile & Test code | Submit code

Tip: You can submit any number of times you want. Your best submission is considered for computing total score.

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