Problem Y: Pro-Test Voting

Problem Description

Old Bob Test is currently running for Mayor in the Hamlet of Kerning. Kerning is divided up into a number of precincts (numbered $0, 1, 2, \ldots$), and after extensive polling by his crack staff, Bob knows the current percentage of voters in each precinct who plan to vote for him. Needless to say, he would like to increase these percentages in all precincts, but he has limited funds to spend. Based on past results, the effects of spending on any precinct obey the following equation:

$$F_p = I_p + \left(\frac{M}{10.1 + M}\right)\Delta,$$

where I_p is the current percentage of pro-Test voters, Δ is the maximum increase in this percentage possible, M is the amount of money spent in the precinct, in integer multiples of \$1, and F_p is the final expected percentage. What Bob needs to know is the best way to spend his money to maximize the number of votes he can get.

Input

The first line of each test case contains two integers m and n, representing the amount of money Bob has to spend (in dollars) and the number of precincts. The maximum value for both of these is 100. After this will be n lines of the form N I_p Δ, all positive integers, which contain information on each precinct: N is the population of the precinct and I_p and Δ are as described above. The value of N will be less than 10000. The first of these lines refers to precinct 0, the next to precinct 1, and so on. NOTE: When calculating the number of pro-Test voters in a precinct, you should first perform a double calculation of F_p using the formula above, then multiply this percentage by the population N and round to get the final result.

Output

Output for each test case should consist of a single line containing the maximum number of votes Bob can obtain through optimum spending.

Sample

Sample Input 1

```
100 2
3000 45 15
2000 60 10
```

Sample Output 1

```
3095
```

Sample Input 2

```
100 3
3000 45 15
2000 60 10
4000 20 8
```

Sample Output 2

```
4101
```

Sample Input 3

```
100 3
3000 45 15
2000 60 10
4000 20 7
```

Sample Output 3

```
4070
```

Sample Input 4

```
100 3
3000 45 15
2000 60 10
4000 20 6
```

Sample Output 4

```
4040
```

Sample Input 5

```
100 3
3000 45 15
2000 60 10
4000 20 5
```

Sample Output 5

```
4011
```