

31 The CodeWars is MINE!

20 points

Introduction

Lets say you are in programming competition in which you have some hours to complete a certain amount of problems to solve. Each problem have some points you will earn in case of being solved, and solving more complicated problems will earn you more points.

During the competition welcome, you and your team realize that there are many good programmers, and you have some doubts whether you could win. Therefore, making use of your most notorious ability, strategy, you have decided to write a program that will tell you which problems you should solve to maximize your chances to win.

You will be given the number of hours you have to complete the problems, the points you might earn and the time estimated to complete each problem. So your task is to decide which problems you will solve, the time it will require, and the total points you will earn, taking into consideration some key points.

- Based on the experience of previous CodeWars editions, you know that:
 - In average, the CodeWars servers are down during 5 minutes every hour of competition. During this down time you will not be able to continue solving problems, that is, this minutes are wasted.
 - In average, 2 question tickets are opened every 5 problems, and it takes 5 minutes answering to each of these tickets. During the resolution of the tickets, you will not be able to continue solving problems, and thus, this time is wasted too.
- To make sure you do not face big difficulty changes and that you are able to solve the problems, you decide to only solve consecutive problems.
- In case more than one combination of problems give the highest score, you will prioritize the combination that takes less time, and if they are still equal, the combination with the easiest problems to solve.

Input & Output:

The first input line will contain the number of hours the competition lasts and the second line the total number of problems available in the competition. Afterwards, one line per problem containing the problem number, the points earned if the problem is solved and the estimated time it will require to solve it in minutes. All these parameters are given as a natural numbers.

Input format:

H

N



1 P(1) T(1)

2 P(2) T(2)

...

N P(N) T(N)

Output format:

Maximum points to achieve: SCORE, by solving P problem(s):

p(x) p(x+1) p(x+2) p(x+3) p(x+P)

Input

1

8

1 1 5

2 1 5

3 2 10

4 3 15

5 5 18

6 8 20

7 13 25

8 21 35

Output

Maximum points to achieve: 21, by solving 1 problem(s):

8

