Rob runs a one-man security firm. When he is not out on the street doing what PIs usually do, he makes his money watching videos on his broadband connected computer (Security video streams, that is). Being a very stressful job, even with its meager pay of no more than 200 dollars for a video stream, as he is required to raise the alarm immediately when a potential security breach occurs, he elected to impose the rule of not watching more than two video streams at any time. For each job Rob knows the starting time (given in minutes with "0" as mid-night and all times belong to the same day), duration (in minutes) and payment (in dollars).

Your task is to write a program to help Rob to select the videos he must watch to maximize his pay for a given day.

Input

Input to this problem consists of a sequence of one or more scenarios. Three lines describe the situation of each scenario as follows:

- The first line consists of two integers: the label for the scenario, N, $0 < N < 100$; and the number of videos; V, $0 < V < 100$.
- The second line contains V triples of integers, separated by single space, which describe the payment, start-time (in minutes, with "0" as midnight) and duration (in minutes) for each of the V videos.

The input will be terminated by a line that consists of two zeros (`0 0`), separated by a single space. This line should not be processed.

Output

For each scenario, the output is a single line that contains Rob's maximum possible pay for the day.

Sample Input

```
1 6
20 500 120 10 600 100 100 640 30 50 700 200 90 1100 1200 200 650 1000
0 0
```

Sample Output

```
460
```