

Will and Ned's Excellent Cram Session

Filename: radio

It's the night before a big history exam and Will and Ned, being the procrastinators that they are, have not studied one bit. In the hopes of not failing and flunking out of high school, they desperately want to cram as much as they can. Unfortunately for them, they enjoy listening to the radio too much and will not dare turn it off while their favorite stations are playing. As a result, their productivity seems to drop when it's on. Even worse, when they listen to too many commercials on their favorite stations they just break down and stop working altogether. As they ponder this problem, a bright flash of light and booming sound appear and a giant time traveling cardboard box appears. Out of the box, their friend, Roojus, appears and says "Hello Everybody! How are you doing?" Roojus has come to help Will and Ned. Excellent!

Using his time traveling cardboard box, Roojus is able to gather the radio airing schedules for their favorite stations, including a complete list of commercial breaks. Roojus has planned a study session with Will and Ned between 6:00PM and 12:00AM and is going to set up a schedule of which time frames have too many commercials. While Will and Ned are listening to the radio, Roojus is going to keep the studying light. But when there are too many commercials on, Roojus will turn off the radio so they can get down to what Roojus calls "pure cramming." While he's preparing for the session, he'd like you to help plan the study schedule. Will and Ned can't concentrate when there are two or more commercials on; so during that time Roojus wants the radio off.

Radio Schedule

6:00PM	7:30PM	9:00PM	10:30PM	12:00AM
WUCF	Classical	Commercial	Retro	Commercial
WHOO	Country	Commercial	R&B	
WMTD	Alternative	Commercial	Soft Rock	Commercial
WACM	Techno		Commercial	



Off
Off
Off
Off

The Problem:

Your job is to find out how much "pure cramming" time they can get in within that 6 hour period. Assume that the studying ends at 12:00AM, sharp. Roojus wants them to be well rested for the big exam. Because there may be multiple exams in the future, Roojus wants to be able to use your program to schedule all their study sessions.

The Input:

The first line of input will contain, n , the number of study sessions in the input. The n study sessions follow. For each study session, there will be a positive integer, k ($2 \leq k \leq 10$), on the first line by itself, representing the number of stations to which Will and Ned like to listen. For the next k lines, each line will contain two non-negative integers, x and y ($0 < x, y < 360$), detailing the commercial schedule of a particular station. The first, x , is the amount of time the station runs its programming between commercials in minutes (within a station, all programming between commercials is the same length). The second, y , is the length of commercial breaks in minutes (again within a station, each commercial break is always the same length). Each station starts off at 6:00PM with programming and alternates between programming and commercial breaks.

The Output:

The output for each test case should be a single line of the following format:

Study session # s has m minute(s) of pure cramming. Excellent!

where s is the number of the current study session starting from 1, and m is the total number of minutes that Roojus will keep the radio off for pure cramming time.

Sample Input:

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3
3
15 5
15 10
5 5
2
30 20
30 20
3
350 10
340 10
330 10
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Sample Output:

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Study session #1 has 125 minute(s) of pure cramming. Excellent!
Study session #2 has 140 minute(s) of pure cramming. Excellent!
Study session #3 has 0 minute(s) of pure cramming. Excellent!
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