



DVR Scheduling

Problem #10

Novice / Advanced

11 points

C programmers: your program name must be: prob10.exe
JAVA programmers: your program name must be: Prob10.class

Task Description

The digital video recorder (DVR) is becoming a popular item for home entertainment systems. One of the benefits of a DVR is that it can keep track of when your favorite shows are on for you. Simply tell the DVR which shows you like to watch, and it will record them for you.

Unfortunately, many of your favorite shows are on at the same time and your generic DVR can only record a single show at once. Additionally, the DVR will randomly choose which show to record when there is a scheduling conflict. There must be a better way to do this.

Your task is to write the conflict resolution code for a new Open Source DVR program. The new DVR should consider two things. First, whether another airing of the same show is available to be recorded. Second, if all airings of a particular show conflict with another show(s), then the show(s) with the highest priority will be recorded. In other words, you may have to consider the priority of more than two shows when resolving conflicts. You should only record a show once and during its first available airing.

Develop a program that takes as input the taping schedule of a DVR and determines which shows are recorded and at what time.

Program Input

Sample data is contained in Prob10.in. Read this data using one of the methods described on your "Contest Instructions" sheet, under "Program Input/Output". The input data contains a list of shows to record and the dates and times they will be aired. The shows are listed in priority order, with the first show having the highest priority. Each line contains the name of the show enclosed by quotes (") followed by a series of days and times.

Each day and time consists of a three-letter abbreviation for a day of the week (i.e., one of SUN, MON, TUE, WED, THU, FRI, or SAT), followed by a space, followed by the time of day, expressed in "military time", i.e., as a four-digit sequence whose first two digits are in the range 00..23 (indicating the number of hours since midnight) and whose last two digits are in the range 00..59 (indicating the number of minutes since the beginning of the current hour).

All shows start on the hour and will last less than one hour.
The airings for each show are listed in no particular order.
There is no limit to the number of airings a show may have.

Program Output

For each show listed in the input (and in the same order), display the show name and the time it will be recorded that week. If the show can not be scheduled, you should output "Will not be recorded."

Sample Program Input / Output

Sample input :

```
"Veronica Mars" WED 2000 SUN 2200
"Lost" WED 2000
"Smallville" THU 1900
"The O.C." THU 2000
"24" MON 2000
"Scrubs" TUE 2000
"American Idol" TUE 2000 WED 2000
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"The Family Guy" SUN 2000
"The Simpsons" SUN 1900
"Desperate Housewives" SUN 2000 TUE 1900

Sample Output :

Veronica Mars SUN 2200
Lost WED 2000
Smallville THU 1900
The O.C. THU 2000
24 MON 2000
Scrubs TUE 2000
American Idol Will not be recorded
The Family Guy SUN 2000
The Simpsons SUN 1900
Desperate Housewives TUE 1900