

CS 121 – Homework #8 – due Tuesday, April 23, 2019 – “Scheduling a Meeting”

Let’s help people schedule a 1-hour meeting. Ask the user to enter the name of an input file. The file will contain a list of times when a meeting cannot take place, due to prior engagements. The program will determine those times in which everyone can attend the meeting, and show the list to the user. Assume that the possible range of hours for this problem is Mon-Fri 7am to 7pm. In other words, this is 12 hours a day for 5 days of a week. Thus, we need to keep track of 60 boolean quantities. In your implementation, you may choose to represent this information as a list of boolean values, or as a set.

In this problem, all times are quoted to the hour; there are no minutes. You may assume that the hours are indivisible. On any day, the earliest possible meeting time is 7am, and the latest possible time is 6pm. The program should list the available times for the meeting in chronological order. Print a special message if no meeting time is available. Note that it is not necessary to use “am” or “pm” anywhere in the I/O because there is no ambiguity.

Each line of the input file will specify the days of the week using one capital letter (M,T,W,R,F) for each day. There will be no space between different days. After the list of days, there will be one or more spaces, followed by the range of hours.

Your output needs to conform to the format shown below. If the meeting can be scheduled, then the first line of output should say “Here are the possible meeting times:”. Then, the results of each day of the week should be printed on its own line. Begin with the one-letter abbreviation (e.g. M), a space, followed by the list of hours in chronological order when a meeting could take place. If no meetings are available on a particular day, there should be no line of output for that day. For example, if the only days we can have a meeting are Thursday and Friday, then the output lines for Monday through Wednesday should be omitted.

If no meeting time is available all week, then print a special error message for this case.

For example, if the input file contains:

```
MTWRF 7-10
MWF 2-7
TR 11-3
```

then the output of your program should say:

```
Here are the possible meeting times:
M 10,11,12,1
T 10,3,4,5,6
W 10,11,12,1
R 10,3,4,5,6
F 10,11,12,1
```