Glassboro State College
Third Annual South Jersey High School Programming Contest – April 22, 1989
Pascal Problem

Suppose the secretaries for two busy executives, A and B, often have to find possible times at which A and B could meet on a given day. They decide to commission a Pascal program which will obtain from the keyboard the list of free times for each executive (up to 5 intervals) and will output the intervals when they are both free and could meet. They assume that the lists will be in chronological order and that no meeting will start before 9:00 am or end after 5:00 pm (1700), but there are no other constraints on meeting starting and ending times. Write the program.

Sample input and output for the program is:

```
Enter times for person A.
 Enter up to 5 intervals of free time.
 Each time should be entered as a 4-digit number.  (Do not use a ":".)
 Enter two times on each line (interval start, interval end),
   separated by a space.
 Use -1s to indicate end of data.
    1000 1130
    1230 1445
    1600 1700
    -1 -1

Enter times for person B.
 Enter up to 5 intervals of free time.
 Each time should be entered as a 4-digit number.  (Do not use a ":".)
 Enter two times on each line (interval start, interval end),
   separated by a space.
 Use -1s to indicate end of data.
    1100 1215
    1400 1700
    -1 -1

The times that both A and B are free are:
   1100 to 1130
   1400 to 1445
   1600 to 1700
```

Challenging aspects of the problem:

Deciding how to represent the times.

Deciding how to compare the intervals.

You should hand in as your solution the following:

1. A listing of your program.
2. A run of your program with the same data set given in the problem statement. Label this Test 1. Note: your output can be printed directly on the printer or obtained by a screen dump.
3. Runs of your program on the data sets given below, labeled as Test 2 and Test 3 respectively.
4. A brief description of how your program might be improved, in the space below labeled Item 4 answer.
5. A brief discussion of how generalizable your program is; how easily can it be adapted if the specification above is changed slightly or supplemented by other requirements. Use the space below labeled Item 5 answer.

Test 2 data set:

```
Person A:
   1030 to 1200
   1400 to 1630
Person B:
   1230 to 1430
   1530 to 1600
```

Test 3 data set:

```
Person A:
   1230 to 1330
   1430 to 1500
   1630 to 1700
Person B:
    900 to 1030
   1100 to 1530
   1600 to 1630
```

Item 4 answer:

Item 5 answer: