# Problem B. Moving Tables

**Time limit**   1000 ms
**Mem limit**   10000 kB

The famous ACM (Advanced Computer Maker) Company has rented a floor of a building whose shape is in the following figure.

| room 1 | room 3 | room 5 | ... | room 397 | room 399 |
|---|---|---|---|---|---|
| corridor | | | | | |
| room 2 | room 4 | room 6 | ... | room 398 | room 400 |

The floor has 200 rooms each on the north side and south side along the corridor. Recently the Company made a plan to reform its system. The reform includes moving a lot of tables between rooms. Because the corridor is narrow and all the tables are big, only one table can pass through the corridor. Some plan is needed to make the moving efficient. The manager figured out the following plan: Moving a table from a room to another room can be done within 10 minutes. When moving a table from room i to room j, the part of the corridor between the front of room i and the front of room j is used. So, during each 10 minutes, several moving between two rooms not sharing the same part of the corridor will be done simultaneously. To make it clear the manager illustrated the possible cases and impossible cases of simultaneous moving.

|  | Table moving | Reason |
|---|---|---|
| Possible | ( room 30 to room 50) and (room 60 to room 90) | no part of corridor is shared |
|  | (room 11 to room 12) and (room 14 to room 13) | no part of corridor is shared |
| Impossible | (room 20 to room 40) and (room 31 to room 80) | corridor in front of room 31 to room 40 is shared |
|  | (room 1 to room 4) and (room 3 to room 6) | corridor in front of room 3 is shared |
|  | (room 2 to room 8) and (room 7 to room 10) | corridor in front of room 7 is shared |

For each room, at most one table will be either moved in or moved out. Now, the manager seeks out a method to minimize the time to move all the tables. Your job is to write a program to solve the manager's problem.

**Input**
The input consists of T test cases. The number of test cases ) (T is given in the first line of the input file. Each test case begins with a line containing an integer N , 1 <= N <= 200, that represents the number of tables to move.
Each of the following N lines contains two positive integers s and t, representing that a table is to move from room number s to room number t each room number appears at most once in the N lines). From the 3 + N -rd line, the remaining test cases are listed in the same manner as above.

**Output**
The output should contain the minimum time in minutes to complete the moving, one per line.

**Sample**

| Input | Output |
|---|---|
| 3<br>4<br>10 20<br>30 40<br>50 60<br>70 80<br>2<br>1 3<br>2 200<br>3<br>10 100<br>20 80<br>30 50 | 10<br>20<br>30 |