F: Regatta Tour

Plans were made for a fleet of ships to make a great tour in a regatta. However, budgets were tight so only enough fuel was allocated per ship that would enable it to make the tour with nothing to spare. Organization was also lacking so that the fuel was distributed incorrectly to each of the ports on the tour. If the regatta started from certain ports, the ships may run out of fuel before reaching a port that might hold more than enough fuel. Fortunately there is enough flexibility that the starting point of the regatta can be any of the ports in the circuit.

Input

There may be multiple tours to consider. The number of cases is given by an integer on the first line. Each following line contains the description of one tour, starting with an arbitrary port on the tour. (Assume ports are numbered starting at 1 from this first port.) For each port there are two values, the liters of fuel available and the number of nautical miles to the next port. Keep in mind that the total amount of fuel is exactly sufficient for all ships to complete the tour.

Output

For each tour, present the tour number followed by a port number which will work as a starting point.

Sample Input

```
1
100 200 600 400 200 300
```

Sample Output

```
Tour 1: 2
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