**COM2067**

**LAB 1 – QUIZ**

The objective of this laboratory exercise is to develop a program capable of managing three distinct flight chains and updating flight schedules in the presence of delays. Each flight belongs to one of these chains, identified by a chain ID (1, 2, or 3).

The program first receives a list of flight records from the user in an arbitrary order. After all flight data are collected, the flights must be sorted according to their scheduled departure times (schedMin).

If a delay occurs in a particular flight, all subsequent flights within the same chain are affected by the same delay duration. In contrast, earlier flights in that chain remain unaffected. The program must then update the departure times of the affected flights accordingly.

At the conclusion of execution, the program should print the updated and chronologically ordered flight information for each chain, beginning with chain 1 and proceeding sequentially through chain 3.

The first line of input specifies the total number of flights, denoted by **N**.  
For each flight, the following information is provided:

* **Flight number** (e.g., TK101)
* **Chain ID** (e.g., 1)
* **Scheduled departure time** in HH:MM format

The flight data should be stored in three separate arrays or lists, one for each chain.

#### **Sample Input**

12

TK217 1 12:00

TK101 1 08:00

TK310 2 08:10

TK420 2 10:00

TK205 1 10:00

TK555 3 09:30

TK312 3 11:00

TK113 2 07:00

TK222 3 04:50

TK444 2 12:00

TK243 1 05:00

TK543 2 04:40

2 TK310 20

The final line of input specifies the **chain ID**, the **flight number** where the delay occurs, and the **delay duration in minutes**. You may use **strcmp** function to compare the flight numbers.

In the example above, flight TK310 in **chain 2** experiences a 20-minute delay. Consequently, all subsequent flights in the same chain (TK420 and TK444) must also have their scheduled departure times increased by 20 minutes.

#### **Expected Output**

The output should display all flights, ordered by departure time, beginning with chain 1.

TK243 1 05:00

TK101 1 08:00

TK205 1 10:00

TK217 1 12:00

TK543 2 04:30

TK113 2 07:00

TK310 2 08:30

TK420 2 10:20

TK444 2 12:20

TK222 3 04:20

TK555 3 09:30

TK312 3 11:00