

Q1:

ITFs : Airport connection check , check whether two flights from a valid connections.

Situation 1: The functions are correctly implemented. The valid code is 0 (OK) and the Arriving Flight and departing flights make a valid connection , the time between arrival and departure is sufficient. ITF Valid

Situation 2: The functions are correctly implemented but the connection situation doesn't satisfy. The Arriving Flight and departing flights are not make a valid connection OR the time between arrival and departure is not sufficient. ITF Invalid

Situation 3: The function are not correctly implemented. It reports the wrong signals or outputs. The arriving flights and departure flights make a valid connection but the time between arrival and departure is not long enough. It should be invalid but reports valid. So it is ITF Error.

Q3: ITF Invalid:

Input Parameter: A unique flight code,
originating airport code,
departure time
arrival time
destination airport code,

Environment : Airport database.

Explanation: The unique flight code , originating airport

and destination airport code are correct.

But the time between departure time and arrival time are not long enough for customer.

It will output invalid 15 :

15: Invalid connection, too short. There is insufficient time between arrival of first flight and departure of second flight

Q4: The unique flight code, arriving airport code and destination airport are correct. The transfer time is not sufficient.

Transfer time $\begin{matrix} \nearrow \text{sufficient} \rightarrow \text{OK} \\ \searrow \text{insufficient} \end{matrix}$

departure time too early
early than arrival time

(invalid: Code 15)

departure time = arrival time
(invalid: Code 15)

Q5: Unique Flight Code = U F C

Arrival Airport code = A A C

Departure Airport Code = D A C

Departure time : DT
Arrival time : AT

If $DT > AT$ & sufficient : Valid Connection:
code 0

If $DT < AT$: Invalid Connection & Code 15

If $DT = AT$: Invalid Connection Code 15

Constraint: If UFC, AAC, DAC are correct

Q6: Same as Q5 but in details
for example:

UFC : LHR 7629

AAC : EWR

DAC : LHR

DT : 15:00

Flight time: 10 hours

AT : 16:00

The time between arrival and departure is not
sufficient.