**Databases (**[**INF.01014UF**](javascript:subTopicClickM(%22c0508141242_34.htm%22,%22Examination%20(INF.01014UF%20Databases)%22,%22%22))**) – Report**

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1. Database schema

**Domain :**

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Description** |
| CID | Int | The client ID |
| LID | Int | The airline ID |
| TDTime | Datetime | The departure time |
| TATime | Datetime | The arrival time |
| PDID | Int | The departure airport ID number |
| PAID | Int | The arrival airport ID nubmer |
| TPrice | Int | The price of the airticket |
| TSeat | Int | The seat |
| PID | Int | The airport ID number |
| Pname | String | The airport name |
| PCity | String | The airport location city |
| LID | Int | The airline ID number |
| LName | String | The airline name |
| LUnion | String | The air union of airline |
| LNation | String | The nationality of airline |
| CName | String | The name of client |
| CAge | Int | The age of client |
| CGender | Boolean | The gender of client |
| CNation | String | The nationality of client |

* **Relation : airticket** ( CID, LID, TDTime, TATime, TPrice, TSeat, PDID, PAID )
* **Relation : airline** ( LID, LName, LUnion, LNation )
* **Relation : airport** ( PID, PName, PCity )
* **Relation : client** ( CID, CName, CAge, CGender, CNation )

1. Functional Dependencies

* **Relation : airticket** ( CID, LID, TDTime, TATime, TPrice, TSeat, PDID, PAID )  
  (CID, LID, TDTIme) → TATime  
  (CID, LID, TDTIme) → TPrice  
  (CID, LID, TDTIme) → TSeat  
  (CID, LID, TDTIme) → TDID  
  (CID, LID, TDTIme) → TAID
* **Relation : airline** ( LID, LName, LUnion, LNation )  
  LID → LName  
  LID → LUnion  
  LID → LNation
* **Relation : airport** ( PID, PName, PCity )  
  PID → PName  
  PID → PCity
* **Relation : client** ( CID, CName, CAge, CGender, CNation )  
  CID → CName  
  CID → CAge  
  CID → CGender  
  CID → CNation

**AirTicketDB is in the 3rd normal form:**

* To satisfy the 3rd normal form, non-primary keys should be dependent only on the primary key set, not on the subset of the primary key. That is, there should be no dependency between non-primary keys. Also, it should be in the the 2nd normal form.
* In the case of client, non-primary keys are CName, CAge, CGender, CNation. They are dependent only on CName. Also, there is no dependency between them.
* In the case of airticket, airline and airport, all of them satisfies the condition of 3rd normal form like the case of client.
* Therefore, Our DB, AirTicketDB, satisfies the condition of the 3rd normal form.

1. Current state of the database