

Aung Tun Lin COS103

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Submission date: 09-Dec-2022 02:34PM (UTC+0800)

Submission ID: 1976133676

File name: COS103atl.docx (7.4M)

Word count: 922

Character count: 4651



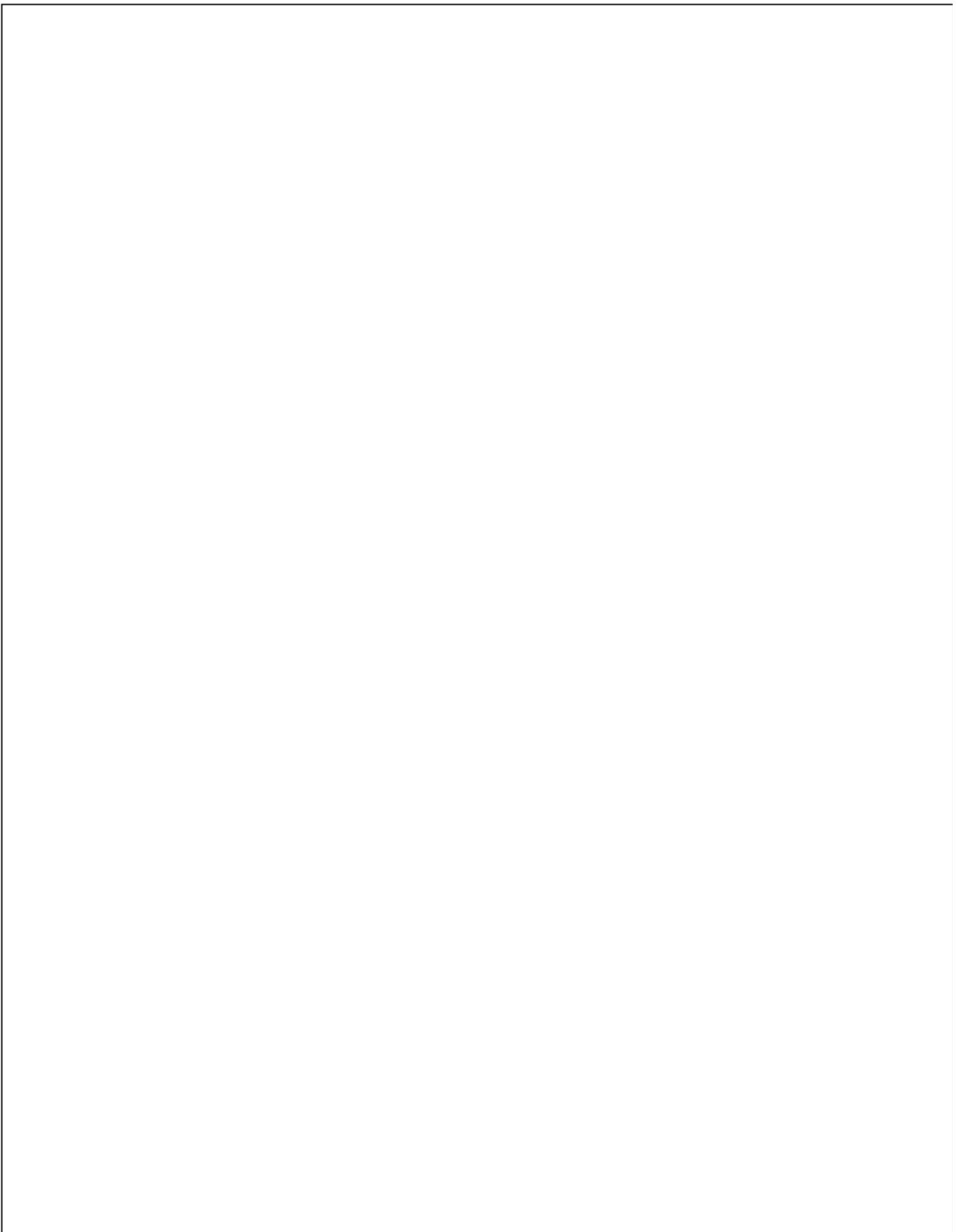
British University College

COS-103 (Database
Application)

Student ID : 00557

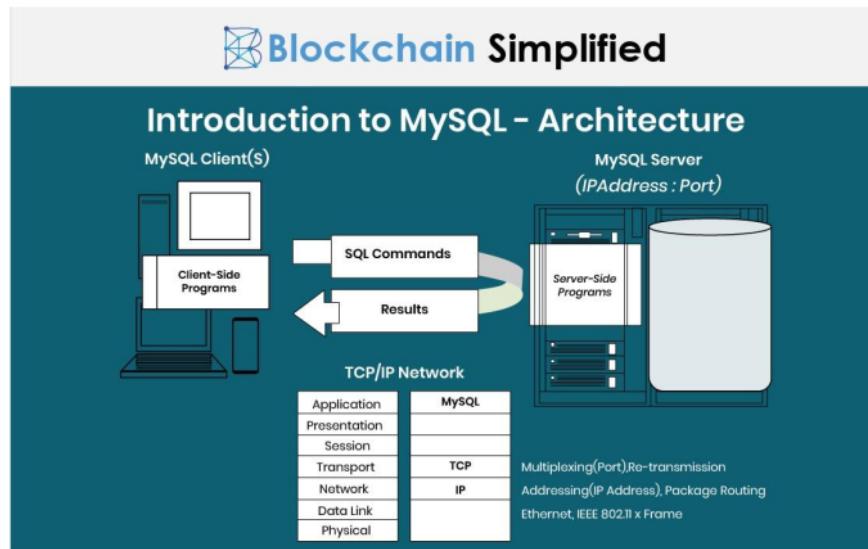
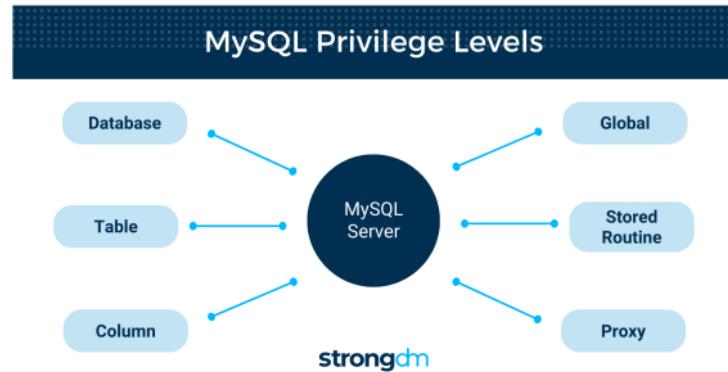
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Submission Date : December 8, 2022



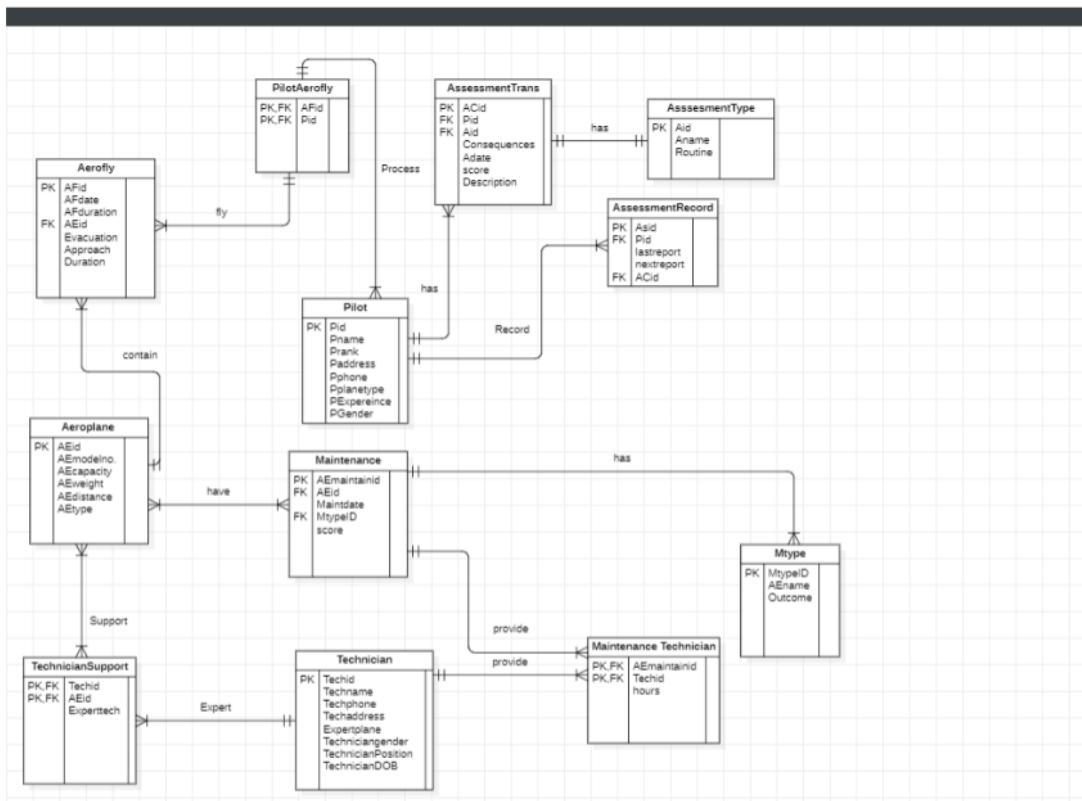
1 What is MySQL?

The most widely used Open-Source Relational SQL database management solution is called MySQL. One of the greatest RDBMSs for creating web-based software applications is MySQL. It will get a head start with MySQL and gain confidence in MySQL programming with the help of this lesson. A relational database system may be interacted with using the structured query language, or SQL, which is maintained as an ISO standard. In order to design, maintain, and query data in a database, SQL offers a practical degree of abstraction. Unlike imperative programming languages like the C programming language, where all computations are clearly specified step-by-step, SQL is a declarative programming language.



Task1-Entity Relationship Diagram(ERD)

Including Multiplicity and Cardinality



Task2-SQL :DDL&DML

3

Introduction to DDL

The word DDL stands for Data Definition Language. The DDL Language used to define and change the structure and data. It is used to create and alter the database's table and other object structures. DDL Commands are as follows:

- ❖ CREATE
- ❖ DROP
- ❖ ALTER
- ❖ RENAME &
- ❖ TRUNCATE

```
C:\Program Files (x86)\MySQL\MySQL Server 5.0\bin\mysql.exe
Enter password: ****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 7
Server version: 5.0.45-community-nt MySQL Community Edition (GPL)

Type 'help;' or '\h' for help. Type '\c' to clear the buffer.

mysql> create database ATL;
Query OK, 1 row affected (0.00 sec)

mysql> ■
```

```
C:\Program Files (x86)\MySQL\MySQL Server 5.0\bin\mysql.exe
Enter password: ****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 7
Server version: 5.0.45-community-nt MySQL Community Edition (GPL)

Type 'help;' or '\h' for help. Type '\c' to clear the buffer.

mysql> create database ATL;
Query OK, 1 row affected (0.00 sec)

mysql> use ATL;
Database changed
mysql>
```

The above snapshot represents the request of password that user must put the correct one to proceed the following. The above command line “Create” is used to create a database along with the new name-ATL. Then use the database name that used while creating a new database.

Table Creation

1.Aeroplane:

```
C:\Program Files\MySQL\MySQL Server 5.6\bin>mysql
Enter password: ****
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 7
Server version: 5.6.45-community-nt MySQL Community Edition (GPL)

Type 'help;' or '\h' for help. Type '\c' to clear the buffer.

mysql> create database ATL;
Query OK, 1 row affected (0.00 sec)

mysql> use ATL;
Database changed
mysql> create table Aeroplane(AEid varchar(7)not null,AEmodelno varchar(7)not null,AEcapacity int not null,AEweight varchar(110)not null,AEdistance double(9,3),primary key(AEid));
Query OK, 0 rows affected (0.01 sec)

mysql> desc Aeroplane;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key  | Default | Extra |
+-----+-----+-----+-----+-----+
| AEid  | varchar(7) | NO   | PRI  |          |          |
| AEmodelno | varchar(7) | NO   |       |          |          |
| AEcapacity | int(11)  | NO   |       |          |          |
| AEweight  | varchar(110) | NO  |       |          |          |
| AEdistance | double(9,3) | YES  |       |          |          |
+-----+-----+-----+-----+-----+
5 rows in set (0.01 sec)

mysql>
```

This is the display of Aero Plane table consist of six different attributes.

This is the creation of Aero Plane Table where Field, Type and Primary key is used.

```
mysql> alter table Aeroplane add column AEtpe varchar(21);
Query OK, 0 rows affected (0.02 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc Aeroplane;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key  | Default | Extra |
+-----+-----+-----+-----+-----+
| AEid  | varchar(7) | NO   | PRI  |          |          |
| AEmodelno | varchar(7) | NO   |       |          |          |
| AEcapacity | int(11)  | NO   |       |          |          |
| AEweight  | varchar(110) | NO  |       |          |          |
| AEdistance | double(9,3) | YES  |       |          |          |
| AEtpe  | varchar(21) | YES  |       |          |          |
+-----+-----+-----+-----+-----+
6 rows in set (0.01 sec)

mysql> ■
```

2.Technician:

The screenshot shows the MySQL Workbench interface with two queries run in a single session.

```
mysql> use ATL;
Database changed
mysql> create table Aeroplane(AEid varchar(7)not null,AModelno varchar(7)not null,ACapacity int not null,AWeight varchar(110)not null,ADistance double(9,3),primary key(AEid));
Query OK, 0 rows affected (0.01 sec)

mysql> desc Aeroplane;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| AEid | varchar(7) | NO | PRI |          |
| AModelno | varchar(7) | NO |       |          |
| ACapacity | int(11) | NO |       |          |
| AWeight | varchar(110) | NO |       |          |
| ADistance | double(9,3) | YES |       | NULL    |
+-----+-----+-----+-----+-----+
0 rows in set (0.01 sec)

mysql> create table Technician(Techid varchar(21)not null,Techname varchar(21)not null,Techphone int not null,Techaddress varchar(51)not null,Expertplane enum("Yes","No")not null,Techniciangender enum("Male","Female")not null,TechnicianPosition enum("Junior","Intermediate","Senior")not null,TechnicianDOB date not null,primary key(Techid));
Query OK, 0 rows affected (0.01 sec)

mysql> desc Technician;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| Techid | varchar(21) | NO | PRI |          |
| Techname | varchar(21) | NO |       |          |
| Techphone | int(11) | NO |       |          |
| Techaddress | varchar(51) | NO |       |          |
| Expertplane | enum('Yes','No') | NO |       |          |
| Techniciangender | enum('Male','Female') | NO |       |          |
| TechnicianPosition | enum('Junior','Intermediate','Senior') | NO |       |          |
| TechnicianDOB | date | NO |       |          |
+-----+-----+-----+-----+-----+
0 rows in set (0.01 sec)

mysql>
```

3.Technician Support:

The screenshot shows the MySQL Workbench interface with a query run in a session.

```
mysql>
mysql> desc TechnicianSupoort;
ERROR 1146 (42S02): Table 'atl.techniciansupoort' doesn't exist
mysql> TechnicianSupoort;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'TechnicianSupport' at line 1
mysql> desc TechnicianSupport;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| Techid | varchar(21) | NO | PRI |          |
| AEid | varchar(7) | NO | PRI |          |
| experttech | enum('Yes','No') | NO |       |          |
+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)

mysql>
```

This is the Display of Technician Support consist of three attributes with the two primary key along to the table.

4.Mtype:

The screenshot shows the MySQL Workbench interface with a query run in a session.

```
mysql> create table Mtype(MtypeID varchar(7)not null,AName varchar(21)not null,outcome enum("Pass","Fail")not null,primary key(MtypeID));
Query OK, 0 rows affected (0.01 sec)

mysql> desc Mtype;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| MtypeID | varchar(7) | NO | PRI |          |
| AName | varchar(21) | NO |       |          |
| outcome | enum('Pass','Fail') | NO |       |          |
+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)

mysql> _
```

Above this snapshot represents the Maintenance type creation table with the three field name where one field name consist of primary key.

5.Maintenance

```
mysql> create table Maintenance(AEmaintainid varchar(7)not null,AEid varchar(7)not null,maintdate date not null,MtypeID varchar(7)not null,score varchar(21),primary key(AEmaintainid),foreign key (AEid) references Aeroplane(AEid),foreign key (MtypeID) references Mtype(MtypeID));
Query OK, 0 rows affected (0.01 sec)

mysql> desc Maintenance;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| AEmaintainid | varchar(7) | NO | PRI |          |
| AEid | varchar(7) | NO | MUL |          |
| maintdate | date | NO |       |          |
| MtypeID | varchar(7) | NO | MUL |          |
| score | varchar(21) | YES |       | NULL    |
+-----+-----+-----+-----+-----+
5 rows in set (0.02 sec)

mysql> *
```

This is the Maintenance Table consist of five field names with different Type along with the foreign key and Primary key.

6.Maintenance Technician

```
mysql> create table MaintenanceTechnician(AEmaintainid varchar(7) not null,Techid varchar(7)not null,hours time not null,primary key(AEmaintainid,Techid),foreign key(AEmaintainid)references maintenance(AEmaintainid),foreign key(Techid) references TechnicianSupport(Techid));
Query OK, 0 rows affected (0.04 sec)

mysql> desc MaintenanceTechnician;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| AEmaintainid | varchar(7) | NO | PRI |          |
| Techid | varchar(7) | NO | PRI |          |
| hours | time | NO |       |          |
+-----+-----+-----+-----+-----+
3 rows in set (0.02 sec)

mysql> *
```

This is the Maintenance Technician table that has three attributes along with primary key and Foreign Key as shown in the picture

7.Pilot

```
mysql> create table Pilot(Pid varchar(7)not null,Pname varchar(21)not null,Prank enum("SeniorOfficer","Captain","SeniorCaptain")not null,Paddress varchar(21)not null,Pphone int not null,Pplanetype varchar(21)not null,PExperience varchar(21)not null,PGender enum("Male","Female")not null,primary key(Pid));
Query OK, 0 rows affected (0.00 sec)

mysql> desc Pilot;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| Pid | varchar(7) | NO | PRI |          |
| Pname | varchar(21) | NO |       |          |
| Prank | enum('SeniorOfficer','Captain','SeniorCaptain') | NO |       |          |
| Paddress | varchar(21) | NO |       |          |
| Pphone | int(11) | NO |       |          |
| Pplanetype | varchar(21) | NO |       |          |
| PExperience | varchar(21) | NO |       |          |
| PGender | enum('Male','Female') | NO |       |          |
+-----+-----+-----+-----+-----+
8 rows in set (0.03 sec)

mysql> *
```

This snapshot contain Pilot table with the eight attributes along with the primary key in Pid.

8.AssessmentType

```
mysql> create table AssessmentType(Aid varchar(7)not null,Aname varchar(21)not null,Routine varchar(21)not null,primary key(Aid));
Query OK, 0 rows affected (0.03 sec)

mysql> desc AssessmentType;
+-----+-----+-----+-----+-----+
| Field | Type  | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| Aid   | varchar(7) | NO  | PRI |          |
| Aname | varchar(21) | NO  |     |          |
| Routine | varchar(21) | NO  |     |          |
+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)
```

9.AssessmentTrans

```
mysql> create table AssessmentTrans(ACid varchar(7)not null,Pid varchar(7)not null,Aid varchar(7)not null,Consequences enum("Pass","Fail")not null,Adate date not null,Score int(5)not null,Description varchar(51)not null,primary key(ACid),foreign key (Pid)references pilot(pid),foreign key(Aid)references AssessmentType(Aid));
Query OK, 0 rows affected (0.01 sec)

mysql> desc AssessmentTrans;
+-----+-----+-----+-----+-----+
| Field | Type  | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| ACid  | varchar(7) | NO  | PRI |          |
| Pid   | varchar(7) | NO  | MUL |          |
| Aid   | varchar(7) | NO  | MUL |          |
| Consequences | enum('Pass','Fail') | NO  |     |          |
| Adate  | date    | NO  |     |          |
| Score   | int(11) | NO  |     |          |
| Description | varchar(51) | NO  |     |          |
+-----+-----+-----+-----+-----+
7 rows in set (0.01 sec)
```

This is the Assessment Transmission Table contain its related attributes with the concern primary key and foreign key from another table.

10.AssessmentRecord

```
mysql> create table AssessmentRecord(Asid varchar(7)not null,Pid varchar(7)not null,lastreport varchar(21)not null,nextreport varchar(21)not null,ACid varchar(7)not null,primary key(Asid),foreign key(Pid)references Pilot(Pid),foreign key(ACid)references AssessmentTrans(ACid));
Query OK, 0 rows affected (0.01 sec)

mysql> desc AssessmentRecord;
+-----+-----+-----+-----+-----+
| Field | Type  | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| Asid  | varchar(7) | NO  | PRI |          |
| Pid   | varchar(7) | NO  | MUL |          |
| lastreport | varchar(21) | NO  |     |          |
| nextreport | varchar(21) | NO  |     |          |
| ACid  | varchar(7) | NO  | MUL |          |
+-----+-----+-----+-----+-----+
5 rows in set (0.02 sec)
```

```
mysql> alter table AssessmentRecord modify column lastreport date not null;
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> alter table AssessmentRecord modify column nextreport date not null;
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc AssessmentRecord;
+-----+-----+-----+-----+-----+
| Field | Type  | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| Asid  | varchar(7) | NO  | PRI |          |
| Pid   | varchar(7) | NO  | MUL |          |
| lastreport | date    | NO  |     |          |
| nextreport | date    | NO  |     |          |
| ACid  | varchar(7) | NO  | MUL |          |
+-----+-----+-----+-----+-----+
```

This is the Assessment Record in which it contains five attributes with the primary and Foreign Key. If want to modify its Type its probably welcome as shown in the snapshot.

11.Aerofly

```
mysql> create table Aerofly(AFid varchar(7)not null,AFdate date not null,AFduration time not null,AEid varchar(7)not null,Evacuation varchar(21)not null,Approach varchar(21)not null,duration varchar(21)not null,primary key(AFid),foreign key(AEid)references Aeroplane(AEid);
Query OK, 0 rows affected (0.01 sec)

mysql> desc Aerofly;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| AFid  | varchar(7) | NO  | PRI |          |          |
| AFdate | date    | NO  |      |          |          |
| AFduration | time  | NO  |      |          |          |
| AEid  | varchar(7) | NO  | MUL |          |          |
| Evacuation | varchar(21) | NO  |      |          |          |
| Approach | varchar(21) | NO  |      |          |          |
| Duration | varchar(21) | NO  |      |          |          |
+-----+-----+-----+-----+-----+
7 rows in set (0.01 sec)
```

This snapshot consists of Aero fly table creation where create command is used as shown. It consists of 7 attributes with the primary key and foreign key related to it.

12.PilotAerofly

```
mysql> create table PilotAerofly(AFid varchar(7)not null,Pid varchar(7)not null,primary key(AFid,Pid),foreign key(AFid)references Aerofly(AFid),foreign key(Pid)references Pilot(Pid);
Query OK, 0 rows affected (0.01 sec)

mysql> desc PilotAerofly;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| AFid  | varchar(7) | NO  | PRI |          |          |
| Pid   | varchar(7) | NO  | PRI |          |          |
+-----+-----+-----+-----+
2 rows in set (0.01 sec)

mysql> _
```

The table consists of Pilot Aero fly Table with two attributes consists of Primary key and foreign key along with it.

Data inserting:

Inserting Data into Aero plane

```
mysql> insert into Aeroplane values("Ae001","BB737","355","442MetricTons","387523.254","Airbus");
Query OK, 1 row affected (0.02 sec)

mysql> insert into Aeroplane values("Ae002","Boeing747","555","652MetricTons","789856.254","Aeroplane");
ERROR 1406 (22001): Data too long for column 'AEmodelno' at row 1
mysql> insert into Aeroplane values("Ae002","BB747","555","652MetricTons","789856.254","Aeroplane");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Aeroplane values("Ae003","LJ25","28","115MetricTons","8956.21","PrivateJet");
Query OK, 1 row affected (0.01 sec)

mysql> insert into Aeroplane values("Ae004","M205P","154","475MetricTons","965351.2","Airplane");
Query OK, 1 row affected (0.01 sec)

mysql> insert into Aeroplane values("Ae005","FujiUH","385","875MetricTons","23568741.2","Airbus");
ERROR 1264 (22003): Out of range value adjusted for column 'AEdistance' at row 1
mysql> insert into Aeroplane values("Ae005","FujiUH","385","875MetricTons","2356841.2","Airbus");
ERROR 1264 (22003): Out of range value adjusted for column 'AEdistance' at row 1
mysql> insert into Aeroplane values("Ae005","FujiUH","385","875MetricTons","235681.2","Airbus");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Aeroplane values("Ae006","BUH1C","5","21MetricTons","2351.2","Helicopter");
Query OK, 1 row affected (0.01 sec)

mysql> insert into Aeroplane values("Ae007","Mi2US","8","34MetricTons","54512.2","Helicopter");
Query OK, 1 row affected (0.02 sec)

mysql> insert into Aeroplane values("Ae008","GG550","34","298MetricTons","768514.2","PrivateJet");
Query OK, 1 row affected (0.02 sec)

mysql> insert into Aeroplane values("Ae009","Fa900","39","328MetricTons","957412.4","PrivateJet");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Aeroplane values("Ae010","KJ86","425","897MetricTons","9574122.4","Aeroplane");
ERROR 1264 (22003): Out of range value adjusted for column 'AEdistance' at row 1
mysql> insert into Aeroplane values("Ae010","KJ86","425","897MetricTons","999872.4","Aeroplane");
```

mysql> select*from Aeroplane;					
AElid	AEmodelno	AECapacity	AEweight	AEdistance	AETYPE
Ae001	BB737	355	442MetricTons	387523.254	Airbus
Ae0010	KJ86	425	897MetricTons	999872.400	Aeroplane
Ae002	BB747	555	652MetricTons	789856.254	Aeroplane
Ae003	LJ25	28	115MetricTons	8956.210	PrivateJet
Ae004	M205P	154	475MetricTons	965351.200	Airplane
Ae005	FujiUH	385	875MetricTons	235681.200	Airbus
Ae006	BUH1C	5	21MetricTons	2351.200	Helicopter
Ae007	Mi2US	8	34MetricTons	54512.200	Helicopter
Ae008	GG550	34	298MetricTons	768514.200	PrivateJet
Ae009	Fa900	39	328MetricTons	957412.400	PrivateJet

10 rows in set (0.00 sec)

```
mysql> ■
```

- ❖ Aero plane capacity is depended on number of seats in the plane.
- ❖ Aero plane weights are described in metric Tons.
- ❖ Aero plane distance is calculated in kilometers

Inserting Data into Technician Tables

```
mysql> insert into Technician values("T001","James","089652347","NewYork","Yes","Male","Intermediate","1985-12-03");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Technician values("T002","Zelensky","056974852","Poland","Yes","Male","Intermediate","1985-1-04");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Technician values("T003","Lewandoski","998563259","Poland","Yes","Male","Intermediate","1979-7-25");
Query OK, 1 row affected (0.00 sec)

insert into Technician values("T004","Dyba" at line 1
mysql> insert into Technician values("T004","Dybala","876542315","Argentina","Yes","Male","Senior","1989-12-15");
Query OK, 1 row affected (0.02 sec)

mysql> insert into Technician values("T005","Taylor","582364217","Germany","Yes","Female","Senior","1991-8-09");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Technician values("T006","Christine","896321474","Russia","Yes","Female","Senior","1993-1-13");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Technician values("T007","Laura","887596324","Estonia","Yes","Female","Intermediate","2000-2-19");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Technician values("T008","Maxey","4478965215","Uganda","Yes","Male","Junior","1997-5-5");
ERROR 1264 (22003): Out of range value adjusted for column 'Techphone' at row 1
mysql> insert into Technician values("T008","Maxey","447896521","Uganda","Yes","Male","Junior","1997-5-5");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Technician values("T009","YuYu","875694231","Algeria","Yes","Female","Junior","2002-7-16");
Query OK, 1 row affected (0.01 sec)

mysql> insert into Technician values("T0010","Christina","856698427","Thailand","Yes","Female","Senior","2003-04-03");
Query OK, 1 row affected (0.00 sec)
```

```
mysql> select*from Technician;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Techid | Techname | Techphone | Techaddress | Expertplane | Techniciangender | TechnicianPosition | TechnicianDOB |
+-----+-----+-----+-----+-----+-----+-----+-----+
| T001 | James | 89652347 | NewYork | Yes | Male | Intermediate | 1985-12-03 |
| T0010 | Christina | 856698427 | Thailand | Yes | Female | Senior | 2003-04-03 |
| T002 | Zelensky | 56974852 | Poland | Yes | Male | Intermediate | 1985-01-04 |
| T003 | Lewandoski | 998563259 | Poland | Yes | Male | Intermediate | 1979-07-25 |
| T004 | Dybala | 876542315 | Argentina | Yes | Male | Senior | 1989-12-15 |
| T005 | Taylor | 582364217 | Germany | Yes | Female | Senior | 1991-08-09 |
| T006 | Christine | 896321474 | Russia | Yes | Female | Senior | 1993-01-13 |
| T007 | Laura | 887596324 | Estonia | Yes | Female | Intermediate | 2000-02-19 |
| T008 | Maxey | 447896521 | Uganda | Yes | Male | Junior | 1997-05-05 |
| T009 | YuYu | 875694231 | Algeria | Yes | Female | Junior | 2002-07-16 |
+-----+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql>
```

- ❖ Technician Phone number is based on Technician Address.
- ❖ Technician Position is based on its skills and the Experience...

Inserting Data into Technician Support Table

```
mysql> insert into TechnicianSupport values("T001","Ae001","Yes");
Query OK, 1 row affected (0.01 sec)

mysql> insert into TechnicianSupport values("T002","Ae002","Yes");
Query OK, 1 row affected (0.01 sec)

mysql> insert into TechnicianSupport values("T003","Ae003","Yes");
Query OK, 1 row affected (0.00 sec)

mysql> insert into TechnicianSupport values("T004","Ae004","Yes");
Query OK, 1 row affected (0.02 sec)

mysql> insert into TechnicianSupport values("T005","Ae005","Yes");
Query OK, 1 row affected (0.00 sec)

mysql> insert into TechnicianSupport values("T006","Ae006","Yes");
Query OK, 1 row affected (0.02 sec)

mysql> insert into TechnicianSupport values("T007","Ae007","Yes");
Query OK, 1 row affected (0.00 sec)

mysql> insert into TechnicianSupport values("T008","Ae008","Yes");
Query OK, 1 row affected (0.00 sec)

mysql> insert into TechnicianSupport values("T009","Ae009","Yes");
Query OK, 1 row affected (0.01 sec)

mysql> ■
```

```
mysql> select*from TechnicianSupport;
+-----+-----+-----+
| Techid | AEid   | experttech |
+-----+-----+-----+
| T001  | Ae001  | Yes      |
| T0010 | Ae0010 | Yes      |
| T002  | Ae002  | Yes      |
| T003  | Ae003  | Yes      |
| T004  | Ae004  | Yes      |
| T005  | Ae005  | Yes      |
| T006  | Ae006  | Yes      |
| T007  | Ae007  | Yes      |
| T008  | Ae008  | Yes      |
| T009  | Ae009  | Yes      |
+-----+-----+-----+
10 rows in set (0.00 sec)

mysql>
```

Inserting Data into M type Table

```
mysql> insert into mtype values("Mt001","KyawKhant","Fail");
Query OK, 1 row affected (0.00 sec)

mysql> insert into mtype values("Mt002","MinKyaw","Pass");
Query OK, 1 row affected (0.00 sec)

mysql> insert into mtype values("Mt003","Gerard","Fail");
Query OK, 1 row affected (0.00 sec)

mysql> insert into mtype values("Mt004","MyoMin","Pass");
Query OK, 1 row affected (0.01 sec)

mysql> insert into mtype values("Mt005","Nicky","Fail");
Query OK, 1 row affected (0.00 sec)

mysql> insert into mtype values("Mt006","BhoneWin","Pass");
Query OK, 1 row affected (0.00 sec)

mysql> insert into mtype values("Mt007","KaungWai","Pass");
Query OK, 1 row affected (0.00 sec)

mysql> insert into mtype values("Mt008","Willie","Pass");
Query OK, 1 row affected (0.02 sec)

mysql> insert into mtype values("Mt009","Shane","Pass");
Query OK, 1 row affected (0.02 sec)

mysql> insert into mtype values("Mt0010","Rkar","Pass");
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select*from mtype;
+-----+-----+-----+
| MtypeID | AName   | outcome |
+-----+-----+-----+
| Mt001  | KyawKhant | Fail    |
| Mt0010 | Rkar     | Pass    |
| Mt002  | MinKyaw  | Pass    |
| Mt003  | Gerard    | Fail    |
| Mt004  | MyoMin   | Pass    |
| Mt005  | Nicky    | Fail    |
| Mt006  | BhoneWin | Pass    |
| Mt007  | KaungWai | Pass    |
| Mt008  | Willie   | Pass    |
| Mt009  | Shane    | Pass    |
+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> _
```

Inserting Data into Maintenance Table

```
mysql> insert into maintenance values("Am001","Ae001","2019-5-06","Mt001","30");
Query OK, 1 row affected (0.02 sec)

mysql> insert into maintenance values("Am002","Ae002","2019-5-06","Mt002","90");
Query OK, 1 row affected (0.00 sec)

mysql> insert into maintenance values("Am003","Ae003","2018-6-23","Mt003","78");
Query OK, 1 row affected (0.00 sec)

mysql> insert into maintenance values("Am004","Ae004","2021-11-19","Mt003","78");
Query OK, 1 row affected (0.00 sec)

mysql> DELETE FROM maintenance WHERE AEid='Ae003';
Query OK, 1 row affected (0.02 sec)

mysql> DELETE FROM maintenance WHERE AEid='Ae004';
Query OK, 1 row affected (0.01 sec)

mysql> insert into maintenance values("Am003","Ae003","2018-6-23","Mt003","25");
Query OK, 1 row affected (0.01 sec)

mysql> insert into maintenance values("Am004","Ae004","2021-11-19","Mt004","78");
Query OK, 1 row affected (0.00 sec)

mysql> insert into maintenance values("Am005","Ae005","2020-8-1","Mt005","22");
Query OK, 1 row affected (0.01 sec)

mysql> insert into maintenance values("Am006","Ae006","2022-9-26","Mt006","86");
Query OK, 1 row affected (0.00 sec)

mysql> insert into maintenance values("Am007","Ae007","2018-4-2","Mt007","12");
Query OK, 1 row affected (0.02 sec)

mysql> insert into maintenance values("Am008","Ae008","2016-10-7","Mt008","98");
Query OK, 1 row affected (0.01 sec)

mysql> insert into maintenance values("Am009","Ae009","2015-12-8","Mt009","45");
Query OK, 1 row affected (0.00 sec)

mysql> insert into maintenance values("Am010","Ae010","2019-6-30","Mt0010","67");
Query OK, 1 row affected (0.02 sec)

mysql> DELETE FROM maintenance WHERE AEid='Ae007';
Query OK, 1 row affected (0.01 sec)

mysql> insert into maintenance values("Am007","Ae007","2018-4-2","Mt007","68");
Query OK, 1 row affected (0.00 sec)

mysql> update Maintenance set maintdate="2016-08-23" where AEmaintainid="Am001";
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update Maintenance set maintdate="2016-08-25" where AEmaintainid="Am003";
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update Maintenance set maintdate="2016-08-5" where AEmaintainid="Am005";
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update Maintenance set maintdate="2016-08-19" where AEmaintainid="Am007";
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update Maintenance set maintdate="2016-08-13" where AEmaintainid="Am006";
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update Maintenance set maintdate="2016-08-2" where AEmaintainid="Am009";
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```

mysql> select*from Maintenance;
+-----+-----+-----+-----+-----+
| AEmaintainid | AEid   | maintdate | MtypeID | score |
+-----+-----+-----+-----+-----+
| Am001        | Ae001  | 2016-08-23 | Mt001   | 30    |
| Am0010       | Ae0010 | 2019-06-30 | Mt0010  | 67    |
| Am002        | Ae002  | 2019-05-06 | Mt002   | 90    |
| Am003        | Ae003  | 2016-08-25 | Mt003   | 25    |
| Am004        | Ae004  | 2021-11-19 | Mt004   | 78    |
| Am005        | Ae005  | 2016-08-05 | Mt005   | 22    |
| Am006        | Ae006  | 2016-08-13 | Mt006   | 86    |
| Am007        | Ae007  | 2016-08-19 | Mt007   | 68    |
| Am008        | Ae008  | 2016-10-07 | Mt008   | 98    |
| Am009        | Ae009  | 2016-08-02 | Mt009   | 45    |
+-----+-----+-----+-----+-----+
10 rows in set (0.02 sec)

mysql>

```

- ❖ Maintenance is filled with primary key along with the foreign key of M type ID.
- ❖ The score less than 40 is marked as a failure.
- ❖ Whereas the marks above 40 is marked a Pass.

Inserting Data into Maintenance Technician Table

```

mysql> insert into MaintenanceTechnician values("Am001","T001","12:30:34");
Query OK, 1 row affected (0.01 sec)

mysql> insert into MaintenanceTechnician values("Am002","T002","1:00:20");
Query OK, 1 row affected (0.01 sec)

mysql> insert into MaintenanceTechnician values("Am003","T003","4:23:11");
Query OK, 1 row affected (0.00 sec)

mysql> insert into MaintenanceTechnician values("Am004","T004","9:12:02");
Query OK, 1 row affected (0.01 sec)

mysql> insert into MaintenanceTechnician values("Am005","T005","8:00:50");
Query OK, 1 row affected (0.00 sec)

mysql> insert into MaintenanceTechnician values("Am006","T006","2:21:00");
Query OK, 1 row affected (0.00 sec)

mysql> insert into MaintenanceTechnician values("Am007","T007","4:09:00");
Query OK, 1 row affected (0.01 sec)

mysql> insert into MaintenanceTechnician values("Am008","T008","11:02:53");
Query OK, 1 row affected (0.01 sec)

mysql> insert into MaintenanceTechnician values("Am009","T009","7:45:00");
Query OK, 1 row affected (0.00 sec)

mysql> insert into MaintenanceTechnician values("Am010","T010","6:00:00");
Query OK, 1 row affected (0.02 sec)

```

```

mysql> select*from MaintenanceTechnician;
+-----+-----+-----+
| AEmaintainid | Techid | hours      |
+-----+-----+-----+
| Am001        | T001   | 12:30:34  |
| Am0010       | T0010  | 06:00:00  |
| Am002        | T002   | 01:00:20  |
| Am003        | T003   | 04:23:11  |
| Am004        | T004   | 09:12:02  |
| Am005        | T005   | 08:00:50  |
| Am006        | T006   | 02:21:00  |
| Am007        | T007   | 04:09:00  |
| Am008        | T008   | 11:02:53  |
| Am009        | T009   | 07:45:00  |
+-----+-----+-----+
10 rows in set (0.00 sec)

```

- ❖ The time is depended on the standard Greenwich median Time of London.

Inserting Data into Assessment Type Table

```
mysql> desc AssessmentType;
+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+
| Aid   | varchar(7) | NO   | PRI |          |          |
| Aname | varchar(21) | NO   |      |          |          |
| Routine | varchar(21) | NO   |      |          |          |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> insert into AssessmentType values("As001","A check","635 Flighthours");
Query OK, 1 row affected (0.00 sec)

mysql> insert into AssessmentType values("As002","B check","adaptable");
Query OK, 1 row affected (0.00 sec)

mysql> insert into AssessmentType values("As003","C check","9 to 19 months");
Query OK, 1 row affected (0.02 sec)

mysql> insert into AssessmentType values("As004","D check","53 flighthours");
Query OK, 1 row affected (0.00 sec)

mysql> insert into AssessmentType values("As005","3C check","9 to 10 years");
Query OK, 1 row affected (0.02 sec)

mysql> insert into AssessmentType values("As006","Annual Check","6 to 13 months");
Query OK, 1 row affected (0.00 sec)
```

```
mysql> select*from AssessmentType;
+-----+-----+-----+
| Aid   | Aname        | Routine      |
+-----+-----+-----+
| As001 | A check     | 635 Flighthours |
| As002 | B check     | adaptable    |
| As003 | C check     | 9 to 19 months |
| As004 | D check     | 53 flighthours |
| As005 | 3C check    | 9 to 10 years  |
| As006 | Annual Check | 6 to 13 months |
+-----+-----+-----+
6 rows in set (0.01 sec)
```

- ❖ Assessment Type consists of A, B, C and D check. A type check comprises of a visual assessment of the airframe, engine, avionics, and accessories to determine the aircraft's overall condition.
- ❖ B Type check comprise an A check plus chosen operational checks, fluid service and lubrication, and an open examination of the panels and cowlings.
- ❖ C Type check comprise an A- and B- check, as well as a complete examination of the airframe, engines, and accessories, heavy lubrication, and a section of the corrosion protection program.
- ❖ D Type check involve the removal of cabin contents to allow for a thorough structural evaluation.
- ❖ Annual Check consist of all type check where it s to Check all the detail of the Aero plane.

Inserting Data into Assessment Trans Table

```
mysql> select*from AssessmentTrans;
Empty set (0.00 sec)

mysql> insert into AssessmentTrans values("AC001","P001","As001","Pass","2019-3-25","65","Hearing Test");
Query OK, 1 row affected (0.00 sec)

mysql> insert into AssessmentTrans values("AC002","P002","As002","Fail","2020-6-2","26","Vision Test");
Query OK, 1 row affected (0.00 sec)

mysql> insert into AssessmentTrans values("AC003","P003","As003","Pass","2018-5-8","85","Mental Test");
Query OK, 1 row affected (0.00 sec)

mysql> insert into AssessmentTrans values("AC004","P004","As004","Fail","2020-8-19","39","Memory Test");
Query OK, 1 row affected (0.00 sec)

mysql> insert into AssessmentTrans values("AC005","P005","As005","Pass","2021-7-30","96","Vision Test");
Query OK, 1 row affected (0.02 sec)

mysql> insert into AssessmentTrans values("AC006","P006","As006","Fail","2016-2-25","23","Mental Test");
Query OK, 1 row affected (0.02 sec)
```

ACid	Pid	Aid	Consequences	Adate	Score	Description
AC001	P001	As001	Pass	2019-03-25	65	Hearing Test
AC002	P002	As002	Fail	2020-06-02	26	Vision Test
AC003	P003	As003	Pass	2018-05-08	85	Mental Test
AC004	P004	As004	Fail	2020-08-19	39	Memory Test
AC005	P005	As005	Pass	2021-07-30	96	Vision Test
AC006	P006	As006	Fail	2016-02-25	23	Mental Test

- ❖ If the score is less than 40 the result will be failed whereas if the score is more than 40 then the result will be pass.
- ❖ The Test is shown in the snapshot.

Inserting Data into Pilot Table

```
mysql> insert into Pilot values("P001","Min Aung","SeniorOfficer","Malaysia","0985642317","Private Jet","6 years","Male");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Pilot values("P002","Su su","Captain","UAE","0854297561","Helicopter","3 Years","Female");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Pilot values("P003","Kyaw Myo","SeniorCaptain","America","0985467312","Airbus","6 Years","Male");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Pilot values("P004","Mae Lone","SeniorOfficer","Myanmar","0567542398","Airbus","9 Years","Male");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Pilot values("P005","Khin Khin","Captain","Indonesia","8956472354","Privat Jet","5 Years","Female");
ERROR 1264 (22003): Out of range value adjusted for column 'Pphone' at row 1
mysql> insert into Pilot values("P005","Khin Khin","Captain","Indonesia","895647235","Privat Jet","5 Years","Female");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Pilot values("P006","Owesea","SeniorCaptain","Sewden","052463257","Aeroplane","4 Years","Male");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Pilot values("P007","Zaltan","SeniorOfficer","Norway","086574231","Airbus","12 Years","Male");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Pilot values("P008","Depaul","SeniorCaptain","Argentina","078954321","Helicopter","7 Years","Male");
Query OK, 1 row affected (0.01 sec)

mysql> insert into Pilot values("P009","Malkova","Captain","USSR","085624317","Aeroplane","8 Years","Female");
Query OK, 1 row affected (0.00 sec)

mysql>
```

```
mysql> select*from Pilot;
+-----+-----+-----+-----+-----+-----+-----+-----+
| Pid | Pname | Prank | Paddress | Pphone | Pplanetype | PExperience | PGender |
+-----+-----+-----+-----+-----+-----+-----+-----+
| P001 | Min Aung | SeniorOfficer | Malaysia | 985642317 | Private Jet | 6 years | Male |
| P0010 | Vina | SeniorOfficer | Solvakia | 87546935 | Airbus | 11 Years | Female |
| P002 | Su su | Captain | UAE | 854297561 | Helicopter | 3 Years | Female |
| P003 | Kyaw Myo | SeniorCaptain | America | 985467312 | Airbus | 6 Years | Male |
| P004 | Mae Lone | SeniorOfficer | Myanmar | 567542398 | Airbus | 9 Years | Male |
| P005 | Khin Khin | Captain | Indonesia | 895647235 | Privat Jet | 5 Years | Female |
| P006 | Owesea | SeniorCaptain | Sewden | 52463257 | Aeroplane | 4 Years | Male |
| P007 | Zaltan | SeniorOfficer | Norway | 86574231 | Airbus | 12 Years | Male |
| P008 | Depaul | SeniorCaptain | Argentina | 78954321 | Helicopter | 7 Years | Male |
| P009 | Malkova | Captain | USSR | 85624317 | Aeroplane | 8 Years | Female |
+-----+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)
```

- ❖ The Pilot Experience is shown in years.
- ❖ The Phone number code is based on the Pilot Address where he/she live as shown in the snapshot.

Inserting Data into Assessment Record Table

```
mysql> insert into AssessmentRecord values("Asm001","P001","2019-6-5","2022-8-9","AC001");
ERROR 1146 (42S02): Table 'atl.assessmentrecord' doesn't exist
mysql> insert into AssessmentRecord values("Asm001","P001","2019-6-5","2022-8-9","AC001");
Query OK, 1 row affected (0.00 sec)

mysql> insert into AssessmentRecord values("Asm002","P002","2017-8-19","2019-5-21","AC002");
Query OK, 1 row affected (0.00 sec)

mysql> insert into AssessmentRecord values("Asm003","P003","2013-3-8","2018-2-7","AC003");
Query OK, 1 row affected (0.00 sec)

mysql> insert into AssessmentRecord values("Asm004","P004","2019-1-15","2021-7-3","AC004");
Query OK, 1 row affected (0.00 sec)

mysql> insert into AssessmentRecord values("Asm005","P005","2016-2-9","2020-8-5","AC005");
Query OK, 1 row affected (0.02 sec)

mysql> insert into AssessmentRecord values("Asm006","P006","2021-5-6","2022-5-23","AC006");
Query OK, 1 row affected (0.02 sec)
```

```
mysql> select*from AssessmentRecord;
+-----+-----+-----+-----+-----+
| Asid | Pid | lastreport | nextreport | ACid |
+-----+-----+-----+-----+-----+
| Asm001 | P001 | 2019-06-05 | 2022-08-09 | AC001 |
| Asm002 | P002 | 2017-08-19 | 2019-05-21 | AC002 |
| Asm003 | P003 | 2013-03-08 | 2018-02-07 | AC003 |
| Asm004 | P004 | 2019-01-15 | 2021-07-03 | AC004 |
| Asm005 | P005 | 2016-02-09 | 2020-08-05 | AC005 |
| Asm006 | P006 | 2021-05-06 | 2022-05-23 | AC006 |
+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

- ❖ The last report of Assessment Record is the previous Assessment Transition Record.
- ❖ The next report of Assessment Record is the recent Assessment Transition Record.

Inserting Data into Aero fly Table

```
mysql> insert into Aerofly values("AF001", "2019-6-8", "23:55:00", "Ae001", "Malaysia", "Vietnam", "1 hour");
Query OK, 1 row affected (0.02 sec)

mysql> insert into Aerofly values("AF002", "2021-8-9", "03:03:32", "Ae002", "USA", "Thailand", "38 hour");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Aerofly values("AF003", "2017-5-6", "17:00:00", "Ae003", "Cambodia", "Lao", "54 minutes");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Aerofly values("AF004", "2018-23", "17:00:00", "Ae004", "Uruguay", "UAE", "6hr 23minutes");
ERROR 1292 (22007): Incorrect date value: '2018-23' for column 'AFdate' at row 1
mysql> insert into Aerofly values("AF004", "2018-2-23", "17:00:00", "Ae004", "Uruguay", "UAE", "6hr 23minutes");
Query OK, 1 row affected (0.01 sec)

mysql> insert into Aerofly values("AF005", "2022-12-12", "01:30:25", "Ae005", "Indonesia", "Singapore", "2hr 14minutes");
Query OK, 1 row affected (0.01 sec)

mysql> insert into Aerofly values("AF006", "2017-11-29", "08:52:00", "Ae006", "Paraguay", "India", "5 hours");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Aerofly values("AF007", "2021-6-7", "21:30:00", "Ae007", "Norway", "London", "4 hours");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Aerofly values("AF008", "2019-10-5", "05:23:00", "Ae008", "Mexico", "Bahamas", "7 hours");
Query OK, 1 row affected (0.01 sec)

mysql> insert into Aerofly values("AF009", "2022-5-2", "06:23:12", "Ae009", "Iran", "France", "9 hours");
Query OK, 1 row affected (0.00 sec)

mysql> insert into Aerofly values("AF0010", "2022-12-16", "21:30:00", "Ae0010", "Argentina", "Portugal", "7hrs 35minutes");
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select * from Aerofly;
+-----+-----+-----+-----+-----+-----+-----+
| AFid | AFdate | AFduration | AEid | Evacuation | Approach | Duration |
+-----+-----+-----+-----+-----+-----+-----+
| AF001 | 2019-06-08 | 23:55:00 | Ae001 | Malaysia | Vietnam | 1 hour
| AF0010 | 2022-12-16 | 21:30:00 | Ae0010 | Argentina | Portugal | 7hrs 35minutes
| AF002 | 2021-08-09 | 03:03:32 | Ae002 | USA | Thailand | 38 hour
| AF003 | 2017-05-06 | 17:00:00 | Ae003 | Cambodia | Lao | 54 minutes
| AF004 | 2018-02-23 | 17:00:00 | Ae004 | Uruguay | UAE | 6hr 23minutes
| AF005 | 2022-12-12 | 01:30:25 | Ae005 | Indonesia | Singapore | 2hr 14minutes
| AF006 | 2017-11-29 | 08:52:00 | Ae006 | Paraguay | India | 5 hours
| AF007 | 2021-06-07 | 21:30:00 | Ae007 | Norway | London | 4 hours
| AF008 | 2019-10-05 | 05:23:00 | Ae008 | Mexico | Bahamas | 7 hours
| AF009 | 2022-05-02 | 06:23:12 | Ae009 | Iran | France | 9 hours
+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)
```

Inserting Data into Pilot Aero fly Table

```
mysql> insert into PilotAerofly values("AF001","P001");
Query OK, 1 row affected (0.02 sec)

mysql> insert into PilotAerofly values("AF002","P002");
Query OK, 1 row affected (0.00 sec)

mysql> insert into PilotAerofly values("AF003","P003");
Query OK, 1 row affected (0.02 sec)

mysql> insert into PilotAerofly values("AF003","P003");
ERROR 1062 (23000): Duplicate entry 'AF003-P003' for key 1
mysql> insert into PilotAerofly values("AF004","P004");
Query OK, 1 row affected (0.00 sec)

mysql> insert into PilotAerofly values("AF005","P005");
Query OK, 1 row affected (0.01 sec)

mysql> insert into PilotAerofly values("AF006","P006");
Query OK, 1 row affected (0.02 sec)

mysql> insert into PilotAerofly values("AF007","P007");
Query OK, 1 row affected (0.00 sec)

mysql> insert into PilotAerofly values("AF008","P008");
Query OK, 1 row affected (0.03 sec)

mysql> insert into PilotAerofly values("AF009","P009");
Query OK, 1 row affected (0.01 sec)

mysql> insert into PilotAerofly values("AF0010","P0010");
Query OK, 1 row affected (0.00 sec)
```

```
mysql> select * from PilotAerofly;
+-----+-----+
| AFid | Pid  |
+-----+-----+
| AF001 | P001 |
| AF0010| P0010|
| AF002 | P002 |
| AF003 | P003 |
| AF004 | P004 |
| AF005 | P005 |
| AF006 | P006 |
| AF007 | P007 |
| AF008 | P008 |
| AF009 | P009 |
+-----+-----+
10 rows in set (0.02 sec)
```

Data Selection:

Display the Maintenance tests completed in August 2016.

```
mysql> select* from Maintenance where (year(maintdate)="2016" and month(maintdate)="08");
+-----+-----+-----+-----+
| AEmaintainid | AEid | maintdate | MTypeID | score |
+-----+-----+-----+-----+
| Am001 | Ae001 | 2016-08-23 | Mt001 | 30 |
| Am003 | Ae003 | 2016-08-25 | Mt003 | 25 |
| Am005 | Ae005 | 2016-08-05 | Mt005 | 22 |
| Am006 | Ae006 | 2016-08-13 | Mt006 | 86 |
| Am007 | Ae007 | 2016-08-19 | Mt007 | 68 |
| Am009 | Ae009 | 2016-08-02 | Mt009 | 45 |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

List the output in ascending order depending on the date, followed by the Aero plane information.

```
mysql> select aeroplane.*,maintenance.maintdate,AEmaintainid,score from Aeroplane,Maintenance where Maintenance.aeid=aeroplane.AEid order by maintdate asc;
+-----+-----+-----+-----+-----+-----+-----+-----+
| AEid | AEmodelno | AECapacity | AEweight | AEdistance | AETYPE | maintdate | AEmaintainid | score |
+-----+-----+-----+-----+-----+-----+-----+-----+
| Ae009 | Fa900 | 39 | 328MetricTons | 957412.400 | PrivateJet | 2016-08-02 | Am009 | 45 |
| Ae005 | FujilM | 385 | 875MetricTons | 235681.200 | Airbus | 2016-08-05 | Am005 | 22 |
| Ae006 | BUHIC | 5 | 21MetricTons | 2351.200 | Helicopter | 2016-08-13 | Am006 | 86 |
| Ae007 | Mi2UJS | 8 | 34MetricTons | 54512.200 | Helicopter | 2016-08-19 | Am007 | 68 |
| Ae001 | BB737 | 355 | 442MetricTons | 387523.254 | Airbus | 2016-08-23 | Am001 | 30 |
| Ae003 | L125 | 28 | 115MetricTons | 8956.210 | PrivateJet | 2016-08-25 | Am003 | 25 |
| Ae008 | GG558 | 34 | 298MetricTons | 768514.200 | PrivateJet | 2016-10-07 | Am008 | 98 |
| Ae002 | BB747 | 555 | 652MetricTons | 789856.254 | Aeroplane | 2019-05-06 | Am002 | 90 |
| Ae0010 | K186 | 425 | 897MetricTons | 999872.400 | Aeroplane | 2019-06-30 | Am0010 | 67 |
| Ae004 | M205P | 154 | 475MetricTons | 965351.200 | Airplane | 2021-11-19 | Am004 | 78 |
+-----+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)
```

- ❖ Weight is equally distributed according to the number of seats.
- ❖ A score less than 40 will be marked as failure and the score less than 60 will be marked as a Pass.
- ❖ Distance is calculated in Kilometers.

Task 3 – Relational Algebra:

1. $\prod_{\text{Last name and given name} (\delta \text{ programcode} = "BSC" (\text{student})) (\text{Semester} \bowtie_{\substack{\text{semester.semesterid} \\ = \text{register.semesterid}}} \text{Register})}$
2. $\prod_{\text{grade} (\delta \text{ stno} = "S001", \text{semester} = "1" \wedge \text{year} = "2006" (\text{semester} \bowtie_{\text{semesterid} = \text{register.id}} \text{Register}))}$
3. $\prod_{\text{cname} (\delta \text{ stno} = "S001" (\text{Register} \bowtie_{\text{register.courseid} = \text{coure.course.id}} \text{Course})) \cup$
 - a. $\prod_{\text{cname} (\delta \text{ stno} = "S002" (\text{Register} \bowtie_{\text{register.courseid} = \text{coure.course.id}} \text{Course}))} |$
4. $\prod_{\text{cname} (\delta \text{ stno} = "S001" (\text{Register} \bowtie_{\text{register.courseid} = \text{coure.course.id}} \text{Course})) \cap$
 - a. $\prod_{\text{cname} (\delta \text{ stno} = "S002" (\text{Register} \bowtie_{\text{register.courseid} = \text{coure.course.id}} \text{Course}))}$
5. $\prod_{\text{cname} (\delta \text{ stno} = "S001" (\text{Register} \bowtie_{\text{register.courseid} = \text{coure.course.id}} \text{Course})) -$
 - a. $\prod_{\text{cname} (\delta \text{ stno} = "S002" (\text{Register} \bowtie_{\text{register.courseid} = \text{coure.course.id}} \text{Course}))}$
6. Max($\prod_{\text{marks} (\delta \text{ courseid} = "COPM1108" (\text{Register}))}$)

Aung Tun Lin COS103

ORIGINALITY REPORT



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