# University of Central Florida

## CGS 2545 Database Concepts

### Assignment 7
### Airline Database Project
### Due, Friday, October 27, 2023 for maximum 100%
### Saturday, October 28, 2023 for maximum 90%
### Sunday, October 29, 2023 for maximum 80%
### Monday, October 30, 2023 for maximum 70%

**Deliverables**

To complete this assignment, submit the following **three** files to Webcourses:

1. An SQL file (i.e. save the file with file extension **.sql**) containing the SQL written to perform the tasks. Example: Assignment2Code.sql
2. An exported SQL file using MySQL Workbench Data Export option. The file name should be the following format: **FirstnameLastnameAssignment#.sql**. Example: KarinMarkleAssignment2.sql
3. An ER Diagram generated by MySQL Workbench. The file name should be the following format: **FirstnameLastnameAssignment#ERDiagram.mwb**. Example: KarinMarkleAssignment2ERDiagram.mwb

**Assignment Scope**

1. Use database **airline**.
2. Create tables in the database.
3. Insert data into tables.
4. Write join queries.
5. Create views.
6. Generate an ER diagram.

**References**

1. 10_SQL Select Database.pptx
2. 11_SQL Create Table.pptx
3. 13_SQL Insert Query.pptx
4. 26_AdvancedSQL Using Joins.pptx
5. 33_AdvancedSQL Using Views.pptx

**To access the DBMS**

1. Launch the MySQL Command Line Client executable or MySQL Workbench
2. Login in using the password set during installation “cgs2545” or your chosen password.

**Tasks**

| **Query Description** |
|---|
| 1. Change to use the database **airline** |
| 2. Create a table named **timesheet** with the following attributes, data types, and constraints:<br>a. **ID**, integer, not null, auto increment<br>b. **employeeId**, integer, not null<br>c. **sun**, integer, not null, default value 0<br>d. **mon**, integer, not null, default value 0<br>e. **tues**, integer, not null, default value 0<br>f. **wed**, integer, not null, default value 0<br>g. **thurs**, integer, not null, default value 0<br>h. **fri**, integer, not null, default value 0<br>i. **sat**, integer, not null, default value 0<br>j. primary key is the **ID** field<br>k. foreign key on field **employeeId**, references table **employee**, column **id** |
| 3. Insert data in file **timesheet.sql** into table **timesheet** |
| 4. Create view **timesheetView** with a join query to join tables **employee, timesheet, position,** and **employeePosition** to do the following:<br>a. Concatenate columns **firstName** and **lastName** from table **employee** as **Employee**<br>b. Column **description** from table **position** as **Position**<br>c. Add columns **sun**, **mon**, **tues**, **wed**, **thurs**, **fri**, and **sat** from table **timesheet** as **Hours**<br>d. Order by column **lastName** from table **employee** |
| 5. Create table named **employeeFlight** with the following attributes, data types, and constraints:<br>a. employeeId, integer, not null<br>b. flightId, integer, not null<br>c. primary key is fields **employeeId** and **flightId**<br>d. foreign key on field **employeeId**, references table **employee**, column **id**<br>e. foreign key on field **flightId**, references table **flight**, column **id** |
| 6. Insert data in file **employeeFlight.sql** into table **employeeFlight** |
| 7. Create view **employeeFlightView** with a join query to join tables **employee, flight,** and **employeeFlight** to do the following:<br>a. Concatenate columns **firstName** and **lastName** from table **employee** as **Employee**<br>b. Column **origin** from table **flight** as **Origin**<br>c. Column **departure** from table **flight** as **Departure**<br>d. Column **destination** from table **flight** as **Destination**<br>e. Column **arrival** from table **flight** as **Arrival**<br>f. Order by columns **departure** from table **flight** and **lastName** from table **employee** |
| 8. Create table named **passengerFlight** with the following attributes, data types, and constraints:<br>a. passengerId, integer, not null<br>b. flightId, integer, not null<br>c. primary key is fields **passengerId** and **flightId**<br>d. foreign key on field **passengerId**, references table **passenger**, column **id**<br>f. foreign key on field **flightId**, references table **flight**, column **id** |
| 9. Insert data in file **passengerFlight.sql** into table **passengerFlight** |
| 10. Create view **passengerFlightView** with a join query to join tables **passenger, flight,** and **passengerFlight** to do the following: |

| |
|---|
| a. Concatenate columns **firstName** and **lastName** from table **passenger** as **Passenger**<br>b. Column **origin** from table **flight** as **Origin**<br>c. Column **departure** from table **flight** as **Departure**<br>d. Column **destination** from table **flight** as **Destination**<br>e. Column **arrival** from table **flight** as **Arrival**<br>f. Order by columns **departure** from table **flight** and **lastName** from table **passenger** |
| 11. Generate an ER Diagram using MySQL Workbench, save as a .mwb file |
| 12. Export database **airline** using MySQL Workbench, save as a .sql file |
| 13. Provide written source code in a .sql file |

| **Test Cases** | |
|---|---|
| **Test Case 1** | select * from **timesheet** should look similar to Figure 1 |
| **Test Case 2** | select * from **timesheetView** should look like Figure 2 |
| **Test Case 3** | select * from **employeeFlight** should look similar to Figure 3 |
| **Test Case 4** | select * from **employeeFlightView** should look like Figure 4 |
| **Test Case 5** | select * from **passengerFlight** should look similar to Figure 5 |
| **Test Case 6** | select * from **passengerFlightView** should look like Figure 6 |
| **Test Case 7** | ER Diagram should look like Figure 7 |

```
mysql> select * from timesheet;
+----+------------+-----+-----+------+-----+-------+-----+-----+
| ID | employeeId | sun | mon | tues | wed | thurs | fri | sat |
+----+------------+-----+-----+------+-----+-------+-----+-----+
|  1 |        163 |   0 |   8 |    8 |   8 |     8 |   8 |   0 |
|  2 |        145 |   6 |   6 |    6 |   6 |     6 |   5 |   0 |
|  3 |         73 |   0 |  12 |    6 |  10 |     6 |   8 |   0 |
|  4 |         10 |  10 |   8 |    0 |   0 |     8 |  10 |  10 |
|  5 |          2 |   8 |   8 |    0 |   0 |     8 |  10 |   6 |
|  6 |         87 |   0 |  12 |    6 |  10 |     6 |   8 |   0 |
|  7 |        157 |   8 |   8 |    0 |   0 |     8 |  10 |   6 |
|  8 |        141 |   0 |   8 |    8 |   8 |     8 |   8 |   0 |
|  9 |        155 |  10 |   8 |    0 |   0 |     8 |  10 |  10 |
| 10 |         91 |  12 |   0 |   12 |   0 |     4 |  12 |   0 |
| 11 |         30 |   0 |  12 |    6 |  10 |     6 |   8 |   0 |
| 12 |        153 |  12 |   0 |   12 |   0 |     4 |  12 |   0 |
| 13 |         83 |   6 |   6 |    6 |   6 |     6 |   5 |   0 |
| 14 |         22 |   8 |   8 |    0 |   0 |     8 |  10 |   6 |
| 15 |         11 |   0 |   8 |    8 |   8 |     8 |   8 |   0 |
| 16 |          1 |  10 |   8 |    0 |   0 |     8 |  10 |  10 |
| 17 |          6 |  12 |   0 |   12 |   0 |     4 |  12 |   0 |
| 18 |         13 |   0 |  12 |    6 |  10 |     6 |   8 |   0 |
| 19 |         20 |   7 |   4 |    9 |   0 |     0 |  10 |   3 |
| 20 |         38 |   6 |   6 |    6 |   6 |     6 |   5 |   0 |
| 21 |         15 |  12 |   0 |   12 |   0 |     4 |  12 |   0 |
| 22 |        161 |   0 |   8 |    8 |   8 |     8 |   8 |   0 |
| 23 |        159 |   7 |   4 |    9 |   0 |     0 |  10 |   3 |
| 24 |        151 |  10 |   8 |    0 |   0 |     8 |  10 |  10 |
| 25 |        149 |   7 |   4 |    9 |   0 |     0 |  10 |   3 |
| 26 |        147 |   0 |  12 |    6 |  10 |     6 |   8 |   0 |
| 27 |        143 |  12 |   0 |   12 |   0 |     4 |  12 |   0 |
| 28 |          3 |   6 |   6 |    6 |   6 |     6 |   5 |   0 |
| 29 |          4 |   7 |   4 |    9 |   0 |     0 |  10 |   3 |
| 30 |          5 |   0 |   8 |    8 |   8 |     8 |   8 |   0 |
| 31 |         99 |  10 |   8 |    0 |   0 |     8 |  10 |  10 |
| 32 |         95 |  12 |   0 |   12 |   0 |     4 |  12 |   0 |
| 33 |         71 |   6 |   6 |    6 |   6 |     6 |   5 |   0 |
| 34 |          7 |   8 |   8 |    0 |   0 |     8 |  10 |   6 |
| 35 |          8 |   0 |   8 |    8 |   8 |     8 |   8 |   0 |
| 36 |          9 |  10 |   8 |    0 |   0 |     8 |  10 |  10 |
| 37 |         85 |   0 |  12 |    6 |  10 |     6 |   8 |   0 |
| 38 |         34 |   6 |   6 |    6 |   6 |     6 |   5 |   0 |
| 39 |         18 |   8 |   8 |    0 |   0 |     8 |  10 |   6 |
| 40 |         16 |   0 |   8 |    8 |   8 |     8 |   8 |   0 |
+----+------------+-----+-----+------+-----+-------+-----+-----+
40 rows in set (0.00 sec)
```

**Figure 1 Table timesheet**

```
mysql> select * from timesheetview;
+-------------------+---------------------------------+-------+
| Employee          | Position                        | Hours |
+-------------------+---------------------------------+-------+
| Ethan Ali         | Cleaning Jobs                   |    33 |
| Oliwier Barnett   | Reservation Service Agent       |    42 |
| Sara Barron       | Baggage Handler                 |    46 |
| Ty Bell           | Flight Attendant                |    40 |
| Leo Bird          | Co-pilot                        |    35 |
| Awais Carrillo    | Baggage Handler                 |    40 |
| Laila Christensen | Flight Attendant                |    40 |
| JohnPaul Clarke   | Airline Ticket Agent            |    40 |
| Aamina Dillon     | Airport Planner                 |    33 |
| Fern Garner       | Co-pilot                        |    42 |
| Louis Giles       | Cleaning Jobs                   |    35 |
| Raja Glass        | Cleaning Jobs                   |    40 |
| Brodie Gordon     | Pilot                           |    35 |
| Maha Guthrie      | Baggage Handler                 |    46 |
| Ernest Higgins    | Meteorologist                   |    40 |
| Kaya Hodge        | Aeronautical Engineer           |    42 |
| Mathew Horton     | Pilot                           |    35 |
| Floyd Johns       | Airline Ticket Agent            |    40 |
| Dane Kaiser       | Meteorologist                   |    40 |
| Paris Lindsey     | Pilot                           |    46 |
| Kamil Lozano      | Aircraft Mechanic               |    46 |
| Dawson Marquez    | Passenger Service Agent         |    40 |
| Umaiza Melia      | Co-pilot                        |    40 |
| Jemima Miller     | Baggage Handler                 |    46 |
| Raheem Montgomery | Security                        |    40 |
| Rebekah Morgan    | Flight Attendant                |    35 |
| Lauren Morton     | Security                        |    33 |
| Lyra Murphy       | Flight Attendant                |    42 |
| Hammad Newman     | Baggage Handler                 |    40 |
| Alissa Ortiz      | Aircraft Mechanic               |    40 |
| Nicholas Pena     | Cabin Attendant                 |    40 |
| Alexa Preston     | Cleaning Jobs                   |    42 |
| Nico Prince       | Flight Attendant                |    35 |
| Javan Rennie      | Aircraft Mechanic               |    33 |
| Tulisa Roberts    | Administrative Jobs             |    46 |
| Malik Vincent     | Flight Attendant                |    42 |
| Krystal Walters   | Airfield Operations Specialists |    40 |
| Honey Warren      | Security                        |    40 |
| Ali Waters        | Airport Police                  |    40 |
| Harvey West       | Aircraft Mechanic               |    40 |
+-------------------+---------------------------------+-------+
40 rows in set (0.01 sec)
```

**Figure 2 View timesheetView**

```
mysql> select * from employeeFlight;
+------------+----------+
| employeeId | flightId |
+------------+----------+
|          2 |      100 |
|          3 |      100 |
|         34 |      100 |
|         83 |      100 |
|         95 |      100 |
|         38 |      106 |
|         71 |      106 |
|         85 |      106 |
|         87 |      106 |
|         91 |      106 |
|          1 |      113 |
|          3 |      113 |
|         73 |      113 |
|         85 |      113 |
|         95 |      113 |
|         34 |      116 |
|         71 |      116 |
|         83 |      116 |
|         87 |      116 |
|         91 |      116 |
+------------+----------+
20 rows in set (0.00 sec)
```

**Figure 3 Table employeeFlight**

```
mysql> select * from employeeflightView;
+-------------------+--------+---------------------+-------------+---------------------+
| Employee          | Origin | Departure           | Destination | Arrival             |
+-------------------+--------+---------------------+-------------+---------------------+
| Ty Bell           | DAB    | 2023-11-01 07:00:00 | FLL         | 2023-11-01 08:00:00 |
| Brodie Gordon     | DAB    | 2023-11-01 07:00:00 | FLL         | 2023-11-01 08:00:00 |
| Umaiza Melia      | DAB    | 2023-11-01 07:00:00 | FLL         | 2023-11-01 08:00:00 |
| Rebekah Morgan    | DAB    | 2023-11-01 07:00:00 | FLL         | 2023-11-01 08:00:00 |
| Nico Prince       | DAB    | 2023-11-01 07:00:00 | FLL         | 2023-11-01 08:00:00 |
| Leo Bird          | EYW    | 2023-11-04 13:00:00 | MLB         | 2023-11-04 14:00:00 |
| Laila Christensen | EYW    | 2023-11-04 13:00:00 | MLB         | 2023-11-04 14:00:00 |
| Mathew Horton     | EYW    | 2023-11-04 13:00:00 | MLB         | 2023-11-04 14:00:00 |
| Lyra Murphy       | EYW    | 2023-11-04 13:00:00 | MLB         | 2023-11-04 14:00:00 |
| Malik Vincent     | EYW    | 2023-11-04 13:00:00 | MLB         | 2023-11-04 14:00:00 |
| Ty Bell           | SFB    | 2023-11-07 09:00:00 | SRQ         | 2023-11-07 10:00:00 |
| Fern Garner       | SFB    | 2023-11-07 09:00:00 | SRQ         | 2023-11-07 10:00:00 |
| Paris Lindsey     | SFB    | 2023-11-07 09:00:00 | SRQ         | 2023-11-07 10:00:00 |
| Nico Prince       | SFB    | 2023-11-07 09:00:00 | SRQ         | 2023-11-07 10:00:00 |
| Malik Vincent     | SFB    | 2023-11-07 09:00:00 | SRQ         | 2023-11-07 10:00:00 |
| Leo Bird          | TLH    | 2023-11-09 07:00:00 | TPA         | 2023-11-09 08:00:00 |
| Laila Christensen | TLH    | 2023-11-09 07:00:00 | TPA         | 2023-11-09 08:00:00 |
| Brodie Gordon     | TLH    | 2023-11-09 07:00:00 | TPA         | 2023-11-09 08:00:00 |
| Rebekah Morgan    | TLH    | 2023-11-09 07:00:00 | TPA         | 2023-11-09 08:00:00 |
| Lyra Murphy       | TLH    | 2023-11-09 07:00:00 | TPA         | 2023-11-09 08:00:00 |
+-------------------+--------+---------------------+-------------+---------------------+
20 rows in set (0.00 sec)
```

**Figure 4 View employeeFlightView**

```
mysql> select * from passengerFlight;
+-------------+----------+
| passengerId | flightId |
+-------------+----------+
|         585 |      100 |
|         651 |      100 |
|         661 |      100 |
|         667 |      100 |
|         783 |      100 |
|         587 |      106 |
|         613 |      106 |
|         653 |      106 |
|         673 |      106 |
|         681 |      106 |
|         589 |      113 |
|         593 |      113 |
|         603 |      113 |
|         659 |      113 |
|         679 |      113 |
|         591 |      116 |
|         597 |      116 |
|         601 |      116 |
|         649 |      116 |
|         677 |      116 |
+-------------+----------+
20 rows in set (0.00 sec)
```

**Figure 5 Table passengerFlight**

```
mysql> select * from passengerFlightView;
+------------------+--------+---------------------+-------------+---------------------+
| Passenger        | Origin | Departure           | Desitination | Arrival             |
+------------------+--------+---------------------+-------------+---------------------+
| Jordana Beck     | DAB    | 2023-11-01 07:00:00 | FLL          | 2023-11-01 08:00:00 |
| Dante Rennie     | DAB    | 2023-11-01 07:00:00 | FLL          | 2023-11-01 08:00:00 |
| Alysha Rollins   | DAB    | 2023-11-01 07:00:00 | FLL          | 2023-11-01 08:00:00 |
| Robin Solis      | DAB    | 2023-11-01 07:00:00 | FLL          | 2023-11-01 08:00:00 |
| Thomas Waters    | DAB    | 2023-11-01 07:00:00 | FLL          | 2023-11-01 08:00:00 |
| Avaya Clarke     | EYW    | 2023-11-04 13:00:00 | MLB          | 2023-11-04 14:00:00 |
| Haniya Kaiser    | EYW    | 2023-11-04 13:00:00 | MLB          | 2023-11-04 14:00:00 |
| Michelle Ramirez | EYW    | 2023-11-04 13:00:00 | MLB          | 2023-11-04 14:00:00 |
| Grover Squires   | EYW    | 2023-11-04 13:00:00 | MLB          | 2023-11-04 14:00:00 |
| Imaani Wallace   | EYW    | 2023-11-04 13:00:00 | MLB          | 2023-11-04 14:00:00 |
| Yvonne Goodman   | SFB    | 2023-11-07 09:00:00 | SRQ          | 2023-11-07 10:00:00 |
| Umaiza Heath     | SFB    | 2023-11-07 09:00:00 | SRQ          | 2023-11-07 10:00:00 |
| Kavita Heath     | SFB    | 2023-11-07 09:00:00 | SRQ          | 2023-11-07 10:00:00 |
| Efe House        | SFB    | 2023-11-07 09:00:00 | SRQ          | 2023-11-07 10:00:00 |
| Victor Newman    | SFB    | 2023-11-07 09:00:00 | SRQ          | 2023-11-07 10:00:00 |
| Amari Currie     | TLH    | 2023-11-09 07:00:00 | TPA          | 2023-11-09 08:00:00 |
| Avaya Gonzalez   | TLH    | 2023-11-09 07:00:00 | TPA          | 2023-11-09 08:00:00 |
| Beverley Mckee   | TLH    | 2023-11-09 07:00:00 | TPA          | 2023-11-09 08:00:00 |
| Igor Prince      | TLH    | 2023-11-09 07:00:00 | TPA          | 2023-11-09 08:00:00 |
| Brian Roberts    | TLH    | 2023-11-09 07:00:00 | TPA          | 2023-11-09 08:00:00 |
+------------------+--------+---------------------+-------------+---------------------+
20 rows in set (0.00 sec)
```

**Figure 6 View passengerFlightView**

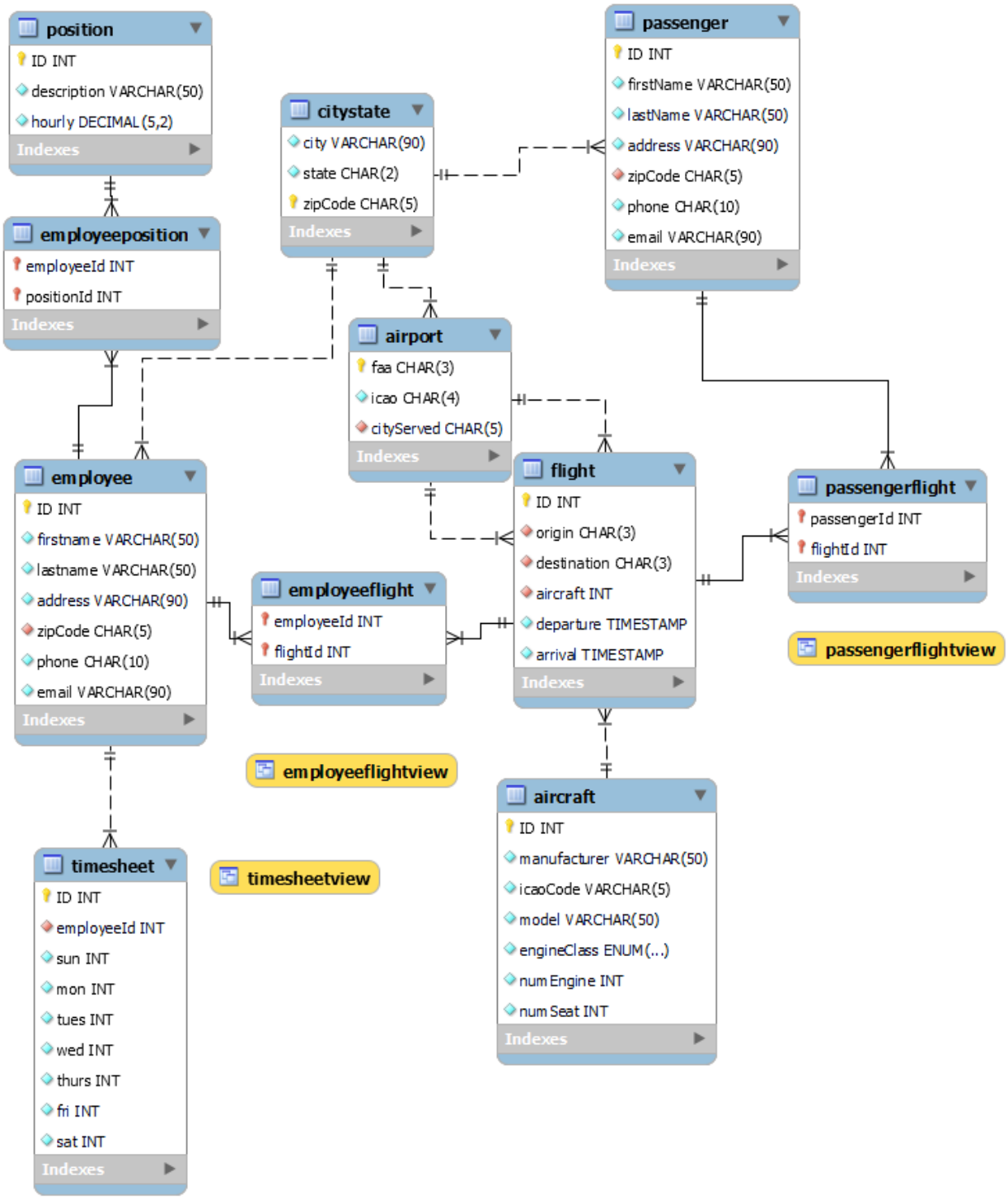


**Figure 7 ER Diagram**