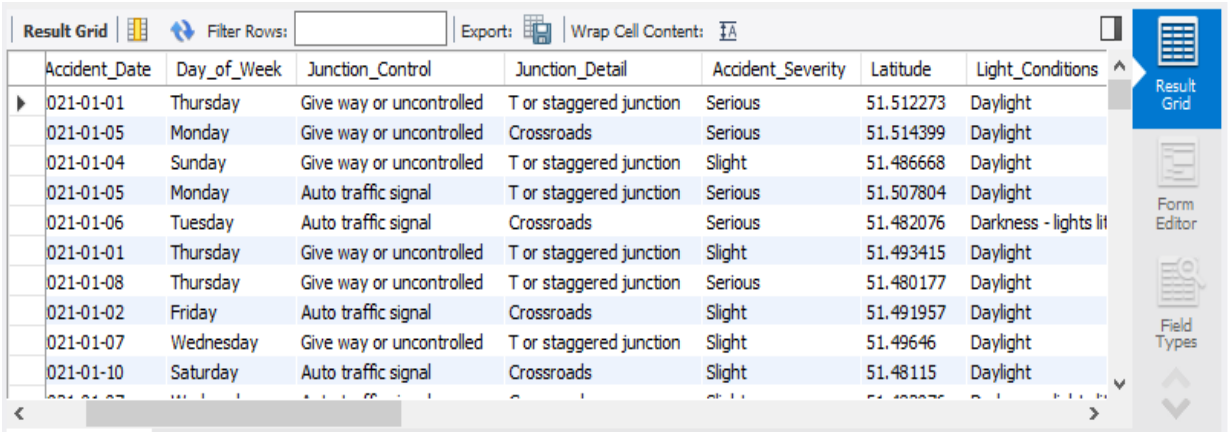
SQL for Economic Impacts of Road Accidents & Casualties on the GDP of the UK.

A. Take a view at the tables:

1. UK_Road_Accident table

SELECT * FROM `uk road accident - 2021 & 2022 dataset`.uk_road_accidents;



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Accident_Date	Day_of_Week	Junction_Control	Junction_Detail	Accident_Severity	Latitude	Light_Conditions
021-01-01	Thursday	Give way or uncontrolled	T or staggered junction	Serious	51.512273	Daylight
021-01-05	Monday	Give way or uncontrolled	Crossroads	Serious	51.514399	Daylight
021-01-04	Sunday	Give way or uncontrolled	T or staggered junction	Slight	51.486668	Daylight
021-01-05	Monday	Auto traffic signal	T or staggered junction	Serious	51.507804	Daylight
021-01-06	Tuesday	Auto traffic signal	Crossroads	Serious	51.482076	Darkness - lights lit
021-01-01	Thursday	Give way or uncontrolled	T or staggered junction	Slight	51.493415	Daylight
021-01-08	Thursday	Give way or uncontrolled	T or staggered junction	Serious	51.480177	Daylight
021-01-02	Friday	Auto traffic signal	Crossroads	Slight	51.491957	Daylight
021-01-07	Wednesday	Give way or uncontrolled	T or staggered junction	Slight	51.49646	Daylight
021-01-10	Saturday	Auto traffic signal	Crossroads	Slight	51.48115	Daylight

Result Grid | Form Editor | Field Types

2. Cost table

SELECT * FROM `uk road accident - 2021 & 2022 dataset`.cost;

Accident_Severity	Cost per Casualty	Cost per Accident
Fatal	1,930,329	2,120,661
Serious	216,915	246,109
Slight	16,722	24,960

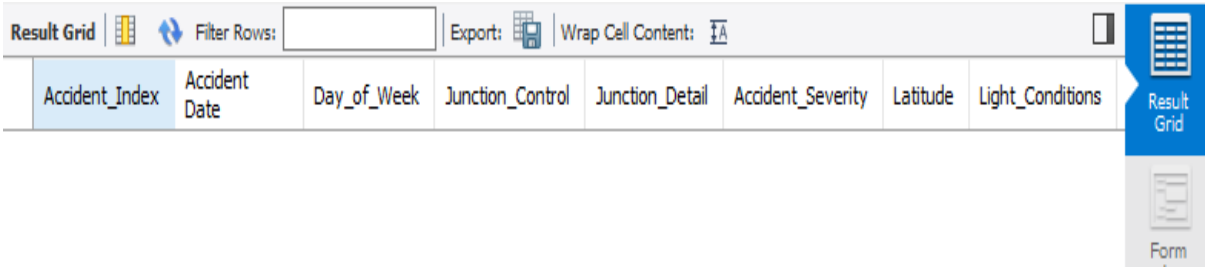
B. Data Wrangling:

1. Change ‘Fetal’ to ‘Fatal’

```
UPDATE uk_road_accidents
SET Accident_Severity='Fatal'
WHERE Accident_Severity='Fetal';
```

2. **To verify the Change**

SELECT * FROM `uk road accident - 2021 & 2022 dataset`.uk_road_accidents
WHERE Accident_Severity = 'Fetal';



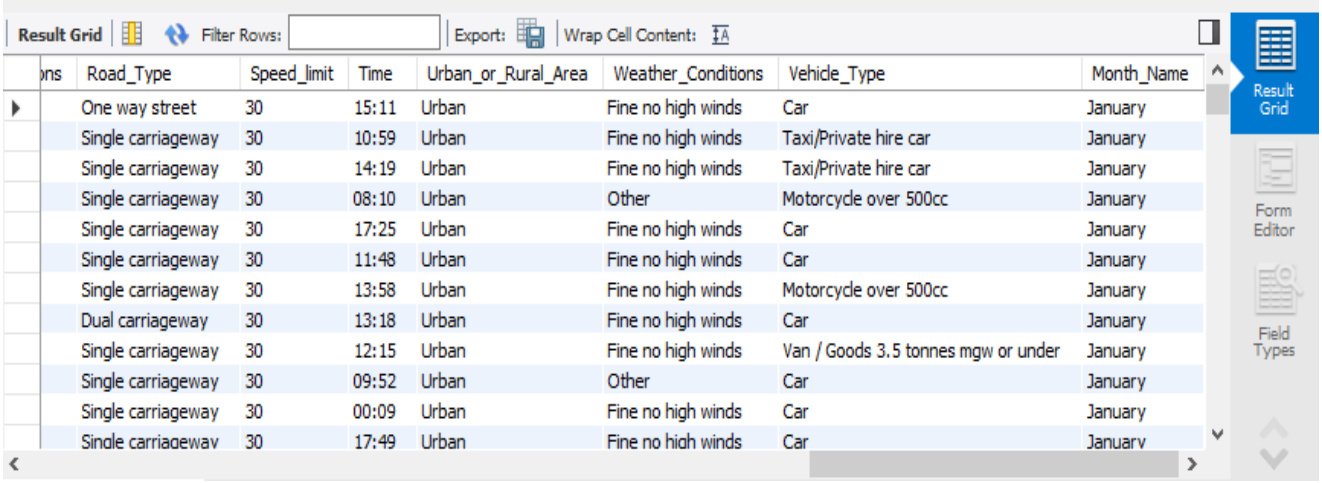
C. <u>Create some needed columns,and join the two tables together:</u>

1. **Create Month_Name Column.**

SELECT Accident_Date, monthname(Accident_Date) as Month_Name
FROM `uk road accident - 2021 & 2022 dataset`.uk_road_accidents;

ALTER TABLE `uk road accident - 2021 & 2022 dataset`.uk_road_accidents
ADD Month_Name text;

UPDATE `uk road accident - 2021 & 2022 dataset`.uk_road_accidents
SET Month_Name = monthname(Accident_Date);

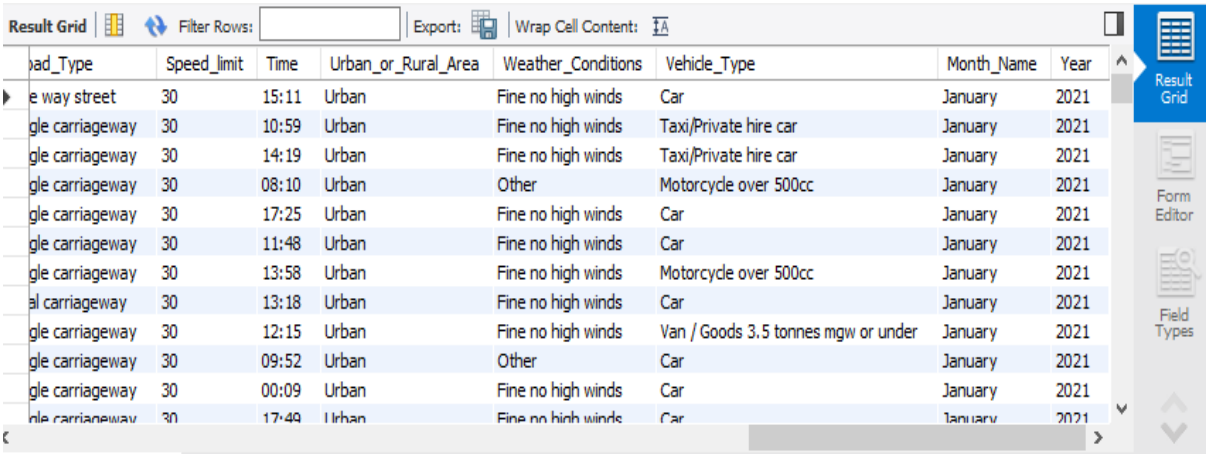


2. **Create Year Column**

```
SELECT Accident_Date, year(Accident_Date) as Year
FROM `uk road accident - 2021 & 2022 dataset`.uk_road_accidents;

ALTER TABLE `uk road accident - 2021 & 2022 dataset`.uk_road_accidents
ADD Year int2;

UPDATE `uk road accident - 2021 & 2022 dataset`.uk_road_accidents
SET Year = year(Accident_Date);
```



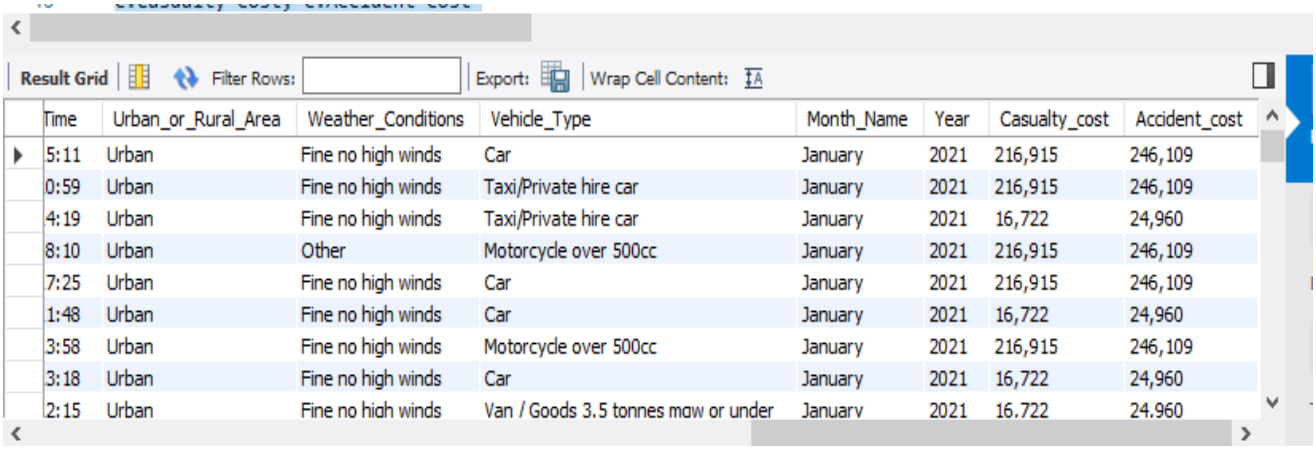
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

ad_Type	Speed_limit	Time	Urban_or_Rural_Area	Weather_Conditions	Vehicle_Type	Month_Name	Year
e way street	30	15:11	Urban	Fine no high winds	Car	January	2021
gle carriageway	30	10:59	Urban	Fine no high winds	Taxi/Private hire car	January	2021
gle carriageway	30	14:19	Urban	Fine no high winds	Taxi/Private hire car	January	2021
gle carriageway	30	08:10	Urban	Other	Motorcycle over 500cc	January	2021
gle carriageway	30	17:25	Urban	Fine no high winds	Car	January	2021
gle carriageway	30	11:48	Urban	Fine no high winds	Car	January	2021
gle carriageway	30	13:58	Urban	Fine no high winds	Motorcycle over 500cc	January	2021
al carriageway	30	13:18	Urban	Fine no high winds	Car	January	2021
gle carriageway	30	12:15	Urban	Fine no high winds	Van / Goods 3.5 tonnes mgw or under	January	2021
gle carriageway	30	09:52	Urban	Other	Car	January	2021
gle carriageway	30	00:09	Urban	Fine no high winds	Car	January	2021
gle carriageway	30	17:49	Urban	Fine no high winds	Car	January	2021

Result Grid | Form Editor | Field Types

3. **Join uk_road_accidents and cost tables together.**

```
SELECT u.Accident_Date, u.Day_of_Week, u.Junction_Control,
u.Junction_Detail, u.Accident_Severity,
u.Light_Conditions, u.Number_of_Casualties, u.Number_of_Vehicles,
u.Road_Surface_Conditions, u.Road_Type, u.Time,
u.Urban_or_Rural_Area, u.Weather_Conditions,
u.Vehicle_Type, u.Month_Name, u.Year,
c.Casualty_cost, c.Accident_cost
FROM `uk road accident - 2021 & 2022 dataset`.uk_road_accidents as u
JOIN `uk road accident - 2021 & 2022 dataset`.cost as c ON
u.Accident_Severity = c.Accident_Severity.
```

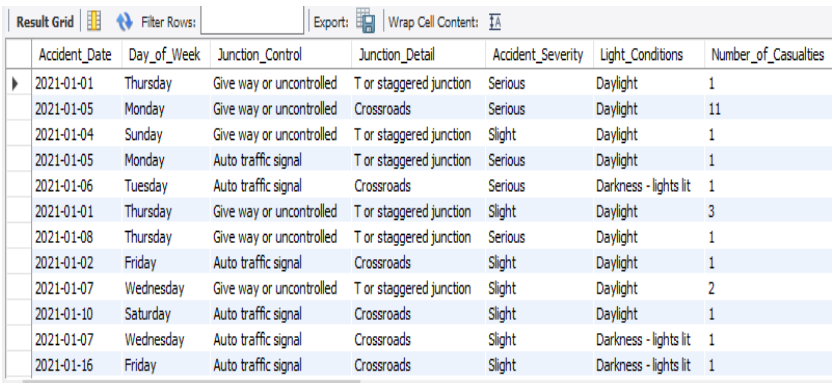


Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Time	Urban_or_Rural_Area	Weather_Conditions	Vehicle_Type	Month_Name	Year	Casualty_cost	Accident_cost
5:11	Urban	Fine no high winds	Car	January	2021	216,915	246,109
0:59	Urban	Fine no high winds	Taxi/Private hire car	January	2021	216,915	246,109
4:19	Urban	Fine no high winds	Taxi/Private hire car	January	2021	16,722	24,960
8:10	Urban	Other	Motorcycle over 500cc	January	2021	216,915	246,109
7:25	Urban	Fine no high winds	Car	January	2021	216,915	246,109
1:48	Urban	Fine no high winds	Car	January	2021	16,722	24,960
3:58	Urban	Fine no high winds	Motorcycle over 500cc	January	2021	216,915	246,109
3:18	Urban	Fine no high winds	Car	January	2021	16,722	24,960
2:15	Urban	Fine no high winds	Van / Goods 3.5 tonnes mgw or under	January	2021	16,722	24,960

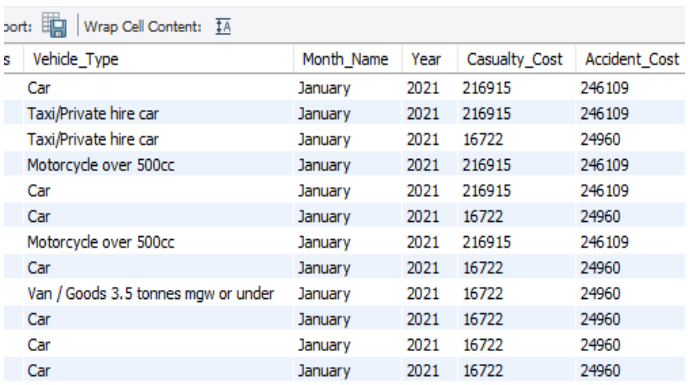
D. Create new table that joined the two tables together named Economic_Impacts_of_Road_Accidents_on_UK_GDP.

```
CREATE TABLE economic_impacts_of_road_accidents_on_uk_gdp
SELECT u.Accident_Date, u.Day_of_Week, u.Junction_Control,
u.Junction_Detail, u.Accident_Severity,
u.Light_Conditions, u.Number_of_Casualties, u.Number_of_Vehicles,
u.Road_Surface_Conditions, u.Road_Type, u.Time, u.Urban_or_Rural_Area,
u.Weather_Conditions,
u.Vehicle_Type, u.Month_Name, u.Year,
c.Casualty_Cost, c.Accident_Cost
FROM `uk road accident - 2021 & 2022 dataset`.uk_road_accidents as u
JOIN `uk road accident - 2021 & 2022 dataset`.cost as c ON
u.Accident_Severity = c.Accident_Severity;
```



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Accident_Date	Day_of_Week	Junction_Control	Junction_Detail	Accident_Severity	Light_Conditions	Number_of_Casualties
2021-01-01	Thursday	Give way or uncontrolled	T or staggered junction	Serious	Daylight	1
2021-01-05	Monday	Give way or uncontrolled	Crossroads	Serious	Daylight	11
2021-01-04	Sunday	Give way or uncontrolled	T or staggered junction	Slight	Daylight	1
2021-01-05	Monday	Auto traffic signal	T or staggered junction	Serious	Daylight	1
2021-01-06	Tuesday	Auto traffic signal	Crossroads	Serious	Darkness - lights lit	1
2021-01-01	Thursday	Give way or uncontrolled	T or staggered junction	Slight	Daylight	3
2021-01-08	Thursday	Give way or uncontrolled	T or staggered junction	Serious	Daylight	1
2021-01-02	Friday	Auto traffic signal	Crossroads	Slight	Daylight	1
2021-01-07	Wednesday	Give way or uncontrolled	T or staggered junction	Slight	Daylight	2
2021-01-10	Saturday	Auto traffic signal	Crossroads	Slight	Daylight	1
2021-01-07	Wednesday	Auto traffic signal	Crossroads	Slight	Darkness - lights lit	1
2021-01-16	Friday	Auto traffic signal	Crossroads	Slight	Darkness - lights lit	1



Wrap Cell Content:

Vehicle_Type	Month_Name	Year	Casualty_Cost	Accident_Cost
Car	January	2021	216915	246109
Taxi/Private hire car	January	2021	216915	246109
Taxi/Private hire car	January	2021	16722	24960
Motorcycle over 500cc	January	2021	216915	246109
Car	January	2021	216915	246109
Car	January	2021	16722	24960
Motorcycle over 500cc	January	2021	216915	246109
Car	January	2021	16722	24960
Van / Goods 3.5 tonnes mgw or under	January	2021	16722	24960
Car	January	2021	16722	24960
Car	January	2021	16722	24960
Car	January	2021	16722	24960

E. Create new columns in Economic_Impacts_of_Road_Accidents_on_UK_GDP table.

1. Add a new column - Total_Casualty_Cost

```
SELECT Number_of_Casualties, Casualty_Cost, (Number_of_Casualties *
Casualty_Cost) as Total_Casualty_Cost
FROM `uk road accident - 2021 & 2022
dataset`.economic_impacts_of_road_accidents_on_uk_gdp;

ALTER TABLE `uk road accident - 2021 & 2022
dataset`.economic_impacts_of_road_accidents_on_uk_gdp
ADD Total_Casualty_Cost bigint;

UPDATE `uk road accident - 2021 & 2022
dataset`.economic_impacts_of_road_accidents_on_uk_gdp
SET Total_Casualty_Cost = (Number_of_Casualties * Casualty_Cost);
```

2. Add a new column - Total_Accident_Cost

```
SELECT Number_of_Casualties, Accident_Cost, (Number_of_Casualties *
Accident_Cost) as Total_Accident_Cost
FROM `uk road accident - 2021 & 2022
dataset`.economic_impacts_of_road_accidents_on_uk_gdp;

ALTER TABLE `uk road accident - 2021 & 2022
dataset`.economic_impacts_of_road_accidents_on_uk_gdp
ADD Total_Accident_Cost bigint;

UPDATE `uk road accident - 2021 & 2022
dataset`.economic_impacts_of_road_accidents_on_uk_gdp
SET Total_Accident_Cost = (Number_of_Casualties * Accident_Cost);
```

3. Add a new column - Total_Payment

```
SELECT Total_Casualty_Cost, Total_Accident_Cost, (Total_Casualty_Cost +
Total_Accident_Cost) as Total_Payment
FROM `uk road accident - 2021 & 2022
dataset`.economic_impacts_of_road_accidents_on_uk_gdp;
```

```
ALTER TABLE `uk road accident - 2021 & 2022
dataset`.economic_impacts_of_road_accidents_on_uk_gdp
ADD Total_Payment bigint;

UPDATE `uk road accident - 2021 & 2022
dataset`.economic_impacts_of_road_accidents_on_uk_gdp
SET Total_Payment = (Total_Casualty_Cost + Total_Accident_Cost);
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

icle_Type	Month_Name	Year	Casualty_Cost	Accident_Cost	Total_Casualty_Cost	Total_Accident_Cost	Total_Payment
	January	2021	216915	246109	216915	246109	463024
/Private hire car	January	2021	216915	246109	2386065	2707199	5093264
/Private hire car	January	2021	16722	24960	16722	24960	41682
orcycle over 500cc	January	2021	216915	246109	216915	246109	463024
	January	2021	216915	246109	216915	246109	463024
	January	2021	16722	24960	50166	74880	125046
orcycle over 500cc	January	2021	216915	246109	216915	246109	463024
	January	2021	16722	24960	16722	24960	41682
/ Goods 3.5 tonnes mgw or under	January	2021	16722	24960	33444	49920	83364
	January	2021	16722	24960	16722	24960	41682
	January	2021	16722	24960	16722	24960	41682
	January	2021	16722	24960	16722	24960	41682
	January	2021	16722	24960	16722	24960	41682
	January	2021	16722	24960	16722	24960	41682
	January	2021	16722	24960	16722	24960	41682
	January	2021	216915	246109	216915	246109	463024