**Домашняя работа №11**

**Тема 11: Хранилище данных**

1. Выполните ПР3. Создавать таблицы не нужно, решаем в теории. Сохранить в репозитории отдельным файлом.

Автобусный парк

Drivers\_dim (IDDriver, PassportNo, Address, PhoneNumber, DriverLicenseNo, LicenseCategory)

Buses\_dim (IDBus, CommisionDate, Color, EngineVolume, TechCertificateDate)

GasStations\_Dim(IDStation, GasStName, GasStAddress)

Root\_dim (IDRoot, StartPoint, EndPoint, Time\_on\_the\_way)

Conductor\_dim (IDConductor, PassportNo, FullName, PhoneNumber)

FuelRefill\_fct (IDRefill, FuelType, Quantity, IDStation, Date, IDBus)

Rides\_fct(IDRide, IDDriver, IDBus, IDRoot, IDConductor, Date)

Вывести топ 10 водителей, проехавших больше всего часов на маршрутах за 2021 год.

**SELECT** **distinct** **top** 10 IDDriver, sum\_Time

**FROM**

(**SELECT** IDDriver, **SUM** (Time\_on\_the\_way) **OVER** (**PARTITION** **BY** IDDriver) **AS** sum\_Time

**FROM** Rides\_fct rf **LEFT** **JOIN** Root\_dim rd **ON** rf.IDRoot=rd.IDRoot

**WHERE** **YEAR**([Date])=2021) T

**ORDER** **BY** sum\_Time **DESC**

Вывести сумму литров бензина, купленных на заправках по разным его типам.Результаты вывести в виде транспонированной таблицы (оси - тип топлива, название заправки)

**SELECT** [FuelType], [st1], [st2], [st3]

**FROM**

(**SELECT** GasStName, FuelType, sum\_quan

**FROM** (**SELECT** GasStName, FuelType, **sum**(Quantity) **OVER** (**PARTITION** **BY** FuelType, GasStName) **AS** sum\_quan

**FROM** FuelRefill\_fct FR **LEFT** **JOIN** GasStations\_Dim GS **ON** FR.IDStation=GS.IDStation) t) s

**PIVOT**

(**AVG**(sum\_quan)

**FOR** GasStName **IN** ([st1], [st2], [st3])) pvt

3. ЗАДАЧА НА MERGE

**CREATE** **TABLE** DZ11

(Fuction\_name **NVARCHAR** (20),

Function\_count **INT**

)

**MERGE** mybase.dbo.DZ11 **AS** Target

**USING** (**SELECT** Alex **FROM** mybase.dbo.data\_for\_merge) **AS** **Source**

**ON** (Target.Fuction\_name = **Source**.Alex)

**WHEN** **MATCHED** **THEN**

**UPDATE** **SET** Target.Function\_count += 1

**WHEN** **NOT** **MATCHED**

**THEN** **INSERT** (Fuction\_name, Function\_count)

**VALUES** (**Source**.Alex, 1);

**MERGE** mybase.dbo.DZ11 **AS** Target

**USING** (**SELECT** Barbara **FROM** mybase.dbo.data\_for\_merge) **AS** **Source**

**ON** (Target.Fuction\_name = **Source**.Barbara)

**WHEN** **MATCHED** **THEN**

**UPDATE** **SET** Target.Function\_count += 1

**WHEN** **NOT** **MATCHED** **AND** **Source**.Barbara **IS** **NOT** **NULL**

**THEN** **INSERT** (Fuction\_name, Function\_count)

**VALUES** (**Source**.Barbara, 1);

**MERGE** mybase.dbo.DZ11 **AS** Target

**USING** (**SELECT** Chris **FROM** mybase.dbo.data\_for\_merge) **AS** **Source**

**ON** (Target.Fuction\_name = **Source**.Chris)

**WHEN** **MATCHED** **THEN**

**UPDATE** **SET** Target.Function\_count += 1

**WHEN** **NOT** **MATCHED** **AND** **Source**.Chris **IS** **NOT** **NULL**

**THEN** **INSERT** (Fuction\_name, Function\_count)

**VALUES** (**Source**.Chris, 1);

**MERGE** mybase.dbo.DZ11 **AS** Target

**USING** (**SELECT** Donna **FROM** mybase.dbo.data\_for\_merge) **AS** **Source**

**ON** (Target.Fuction\_name = **Source**.Donna)

**WHEN** **MATCHED** **THEN**

**UPDATE** **SET** Target.Function\_count += 1

**WHEN** **NOT** **MATCHED** **AND** **Source**.Donna **IS** **NOT** **NULL**

**THEN** **INSERT** (Fuction\_name, Function\_count)

**VALUES** (**Source**.Donna, 1);

**MERGE** mybase.dbo.DZ11 **AS** Target

**USING** (**SELECT** Elton **FROM** mybase.dbo.data\_for\_merge) **AS** **Source**

**ON** (Target.Fuction\_name = **Source**.Elton)

**WHEN** **MATCHED** **THEN**

**UPDATE** **SET** Target.Function\_count += 1

**WHEN** **NOT** **MATCHED** **AND** **Source**.Elton **IS** **NOT** **NULL**

**THEN** **INSERT** (Fuction\_name, Function\_count)

**VALUES** (**Source**.Elton, 1);

**MERGE** mybase.dbo.DZ11 **AS** Target

**USING** (**SELECT** Fred **FROM** mybase.dbo.data\_for\_merge) **AS** **Source**

**ON** (Target.Fuction\_name = **Source**.Fred)

**WHEN** **MATCHED** **THEN**

**UPDATE** **SET** Target.Function\_count += 1

**WHEN** **NOT** **MATCHED** **AND** **Source**.Fred **IS** **NOT** **NULL**

**THEN** **INSERT** (Fuction\_name, Function\_count)

**VALUES** (**Source**.Fred, 1);

**MERGE** mybase.dbo.DZ11 **AS** Target

**USING** (**SELECT** George **FROM** mybase.dbo.data\_for\_merge) **AS** **Source**

**ON** (Target.Fuction\_name = **Source**.George)

**WHEN** **MATCHED** **THEN**

**UPDATE** **SET** Target.Function\_count += 1

**WHEN** **NOT** **MATCHED** **AND** **Source**.George **IS** **NOT** **NULL**

**THEN** **INSERT** (Fuction\_name, Function\_count)

**VALUES** (**Source**.George, 1);

**MERGE** mybase.dbo.DZ11 **AS** Target

**USING** (**SELECT** Harry **FROM** mybase.dbo.data\_for\_merge) **AS** **Source**

**ON** (Target.Fuction\_name = **Source**.Harry)

**WHEN** **MATCHED** **THEN**

**UPDATE** **SET** Target.Function\_count += 1

**WHEN** **NOT** **MATCHED** **AND** **Source**.Harry **IS** **NOT** **NULL**

**THEN** **INSERT** (Fuction\_name, Function\_count)

**VALUES** (**Source**.Harry, 1);

**MERGE** mybase.dbo.DZ11 **AS** Target

**USING** (**SELECT** Irys **FROM** mybase.dbo.data\_for\_merge) **AS** **Source**

**ON** (Target.Fuction\_name = **Source**.Irys)

**WHEN** **MATCHED** **THEN**

**UPDATE** **SET** Target.Function\_count += 1

**WHEN** **NOT** **MATCHED** **AND** **Source**.Irys **IS** **NOT** **NULL**

**THEN** **INSERT** (Fuction\_name, Function\_count)

**VALUES** (**Source**.Irys, 1);

**MERGE** mybase.dbo.DZ11 **AS** Target

**USING** (**SELECT** Elton **FROM** mybase.dbo.data\_for\_merge) **AS** **Source**

**ON** (Target.Fuction\_name = **Source**.Elton)

**WHEN** **MATCHED** **THEN**

**UPDATE** **SET** Target.Function\_count += 1

**WHEN** **NOT** **MATCHED** **AND** **Source**.Donna **IS** **NOT** **NULL**

**THEN** **INSERT** (Fuction\_name, Function\_count)

**VALUES** (**Source**.Elton, 1);