**DATABASE MANAGEMENT SYSTEMS 1 - ASSIGNMENT 3**

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**TASK 1 (5 points)**

**Pick up a real-world structure that needs a database and create a short user story on it.**

TV channel database stores :

The main object that we are considering is ‘TV channel’ which has attributes like ‘name’, ‘chanId’, ‘Digital TV family’, ‘Image formatting’, etc. Each TV channel **has** its own content (‘Cartoons’, ‘Movies’, ‘Shows’, ‘News’, and so on) and **divides into** different departments(Management, Office, and Production). The department that **manages** the whole system includes the CEO, the owner. The office department consists of an accountant, PR manager, lawyer, journalist. The filming process is the duty of the production team(director, writer, cameraman, etc). In addition to that, the employee(employee id, full name, post) of the TV channel **receives** some benefit(‘Salary’, ‘Bonus’, ‘Leave’), and may **go on** a business trip(‘Main purpose’, ‘City’, ‘Housing’). The income of the TV channel **depends on** an **‘**Advertisement’ (on the channel or social media), ‘Ratings’, ‘Sponsoring’ (national and commercial). The expense of the TV channel **depends on** taxes, payments, rent, and so on. The ways of **reaching out** to the TV channels are calling a call center, writing by email, requesting in Headhunter. Also in order to get additional information users may check the accounts on social networks(Facebook, YouTube, Instagram, and so on).

**We have 14 objects and 116 attributes:**

**1** TV channel

1. Channel\_ID (\*PRIMARY KEY)
2. Name - название канала
3. Tagline - слоган
4. Digital\_TV\_family - цифровое телесемейство, к которому относится канал
5. TV\_license
6. Service\_Type (Service of delivering the television programming) - система передачи телевизионного сигнала(кабельное, спутниковое)
7. Image\_formatting - формат картинки (W x H)
8. Is\_active\_since - дата начала вещания
9. Starting\_time - время начала ежедневного вещания
10. Ending\_time - время окончания ежедневного вещания
11. The\_channel\_voice - голос канала

**2** Employee - работник (related to Department )

1. Employee\_ID (\*primary key) - номер пропуска
2. Full\_name
3. Gender
4. Department
5. Post
6. Office - офис/кабинет
7. Academic\_degree - высшее образование
8. Length\_Of\_Service - стаж работы
9. Salary
10. Home\_address
11. Phone\_number

**3** TV\_license

1. Document\_number(\*PRIMARY KEY)
2. Region
3. Date\_receive
4. Service\_life
5. Expiration\_date
6. Pricing

**4** Content

1. Cartoon
2. Movie
3. TV\_series
4. News
5. Sports - спортивные матчи
6. Show - шоу
7. Streaming\_game
8. Music\_chart
9. Stream - прямые эфиры
10. Weather
11. Advertising

**5** Department

1. Naming (\*PRIMARY KEY)
2. Head
3. Main\_Office
4. Functions

**6** Management

1. CEO
2. Owned\_by
3. Associate\_Director
4. Administrator

**7** Office Department

1. Accountant
2. PR\_manager
3. Promoter
4. Journalist
5. Lawyer
6. Secretary

**8** Production

1. Director
2. Sound\_producer
3. Artistic\_director
4. Cameraman
5. Writer
6. Editor
7. TV\_Host
8. Actor
9. Understudy
10. Sound\_producer
11. Voice\_actor
12. Makeup\_artist
13. Stylist
14. Producer
15. Technician (ответственный за аппаратуру)

**9** Contacts

1. Email (\*PRIMARY KEY) - почтовый адрес
2. Call\_center
3. Postal\_code - почтовый индекс
4. Fax
5. Official website - официальный сайт
6. Headhunter

**10** Social media

1. Facebook
2. Instagram
3. YouTube
4. VK
5. Twitter
6. Telegram
7. LinkedIn
8. Tiktok

**11** Incomes - доходы

1. DateInfo
2. ChanAdvert (on the channel) - реклама на канале
3. MedAdvert (on social media and website) - реклама в соц сетях и на сайте
4. Stock - акции
5. Ratings
6. Subscription
7. National\_sponsoring - государственное спонсирование
8. Commercial \_ponsoring - коммерческое спонсирование
9. Content\_selling - продажа прав на передачи

**12** Expenses - расходы

1. DateInfo
2. Employee\_benefit
3. Taxes
4. License\_updating
5. Rent
6. The\_upkeep - содержание офисов
7. Marketing
8. Business\_trip
9. Updating\_the\_equipment
10. Transporting
11. Corporate\_event

**13** Employee\_benefit

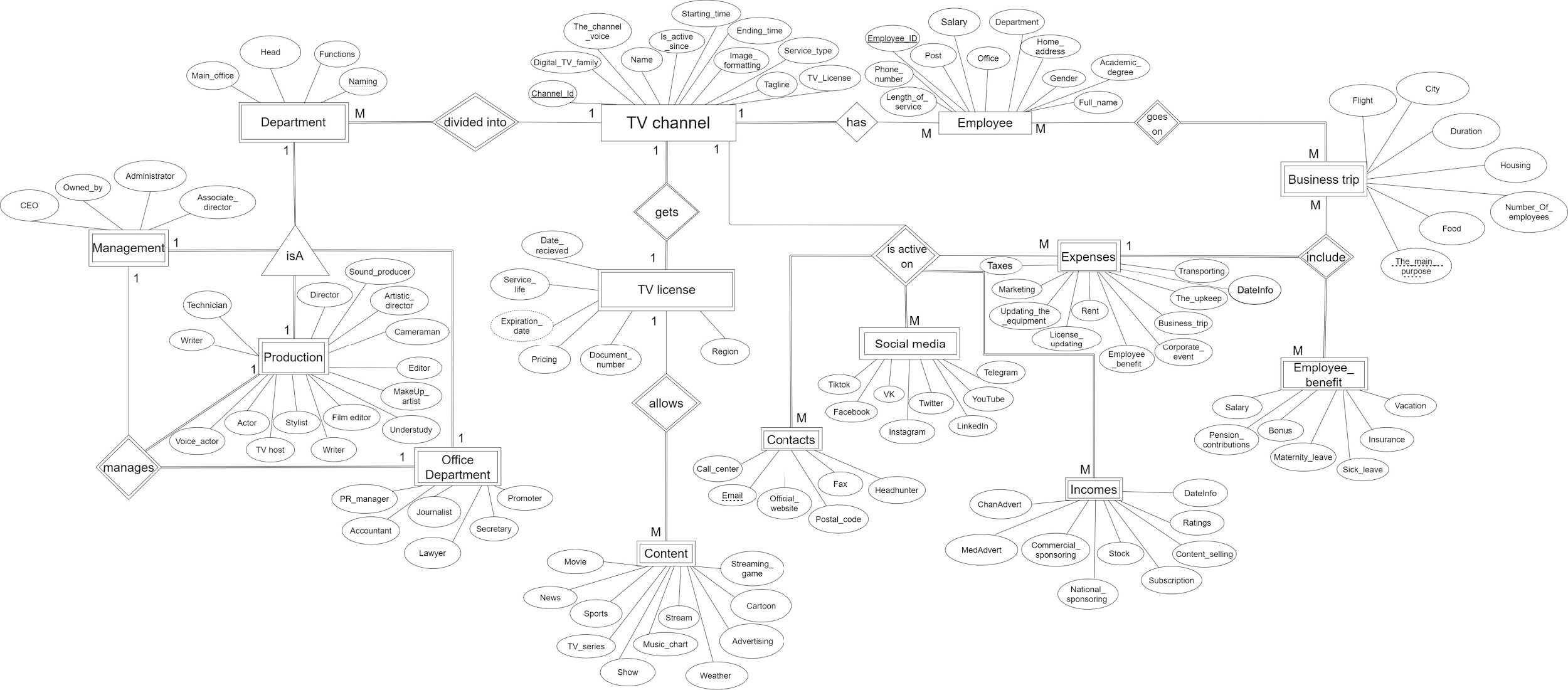
1. Salary
2. Bonus
3. Leave
4. Sick\_leave
5. Maternity\_leave
6. Pension\_contribution
7. Insurance

**14** Business\_trip

1. The\_main\_purpose(\*PRIMARY KEY)
2. City
3. Number\_of\_employees
4. Duration
5. Flight
6. Housing
7. Food

**TASK 2 (5 points)**

**Create ER-diagram for your story created in TASK 1.**



**Follow this link for better quality :**

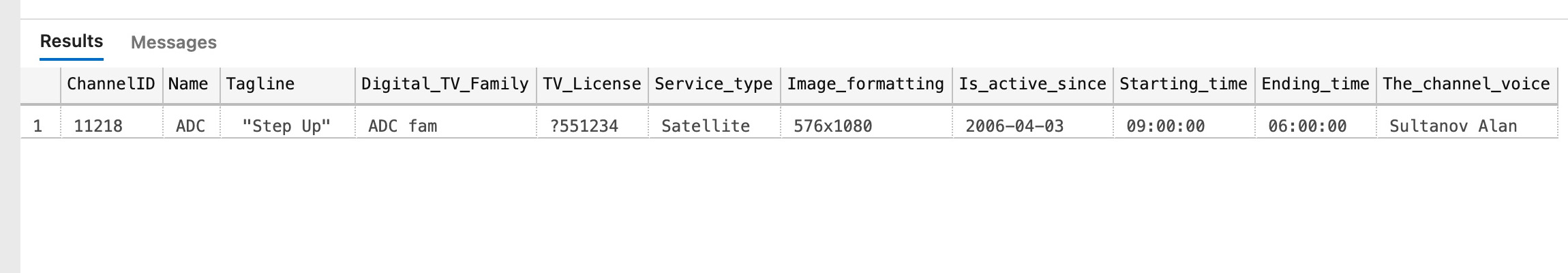
[**https://drive.google.com/drive/folders/1-qxFDSU8-0o4t5GTDuHVjxEA9kpyyUyb**](https://drive.google.com/drive/folders/1-qxFDSU8-0o4t5GTDuHVjxEA9kpyyUyb)

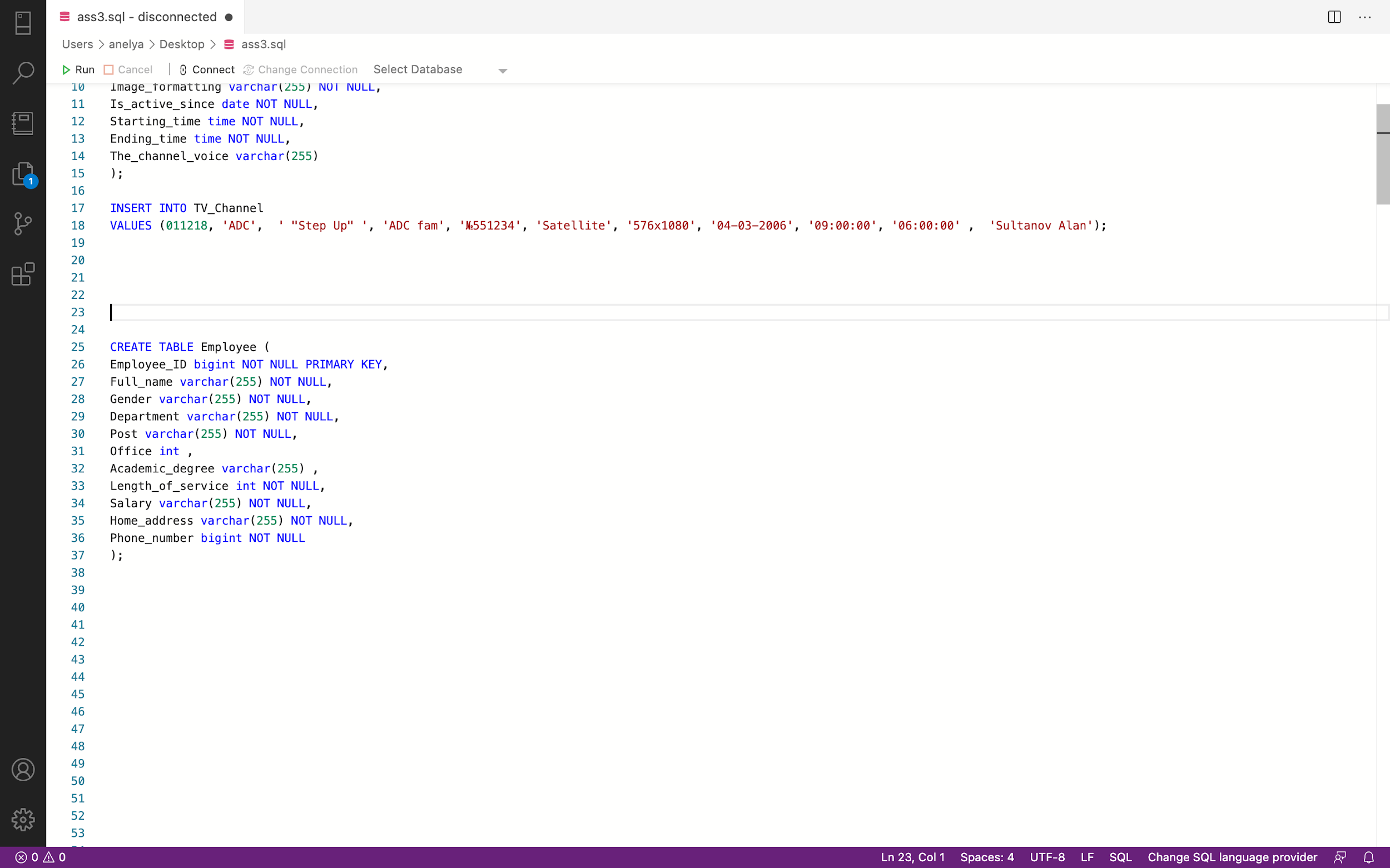
**TASK 3 (20 points)**

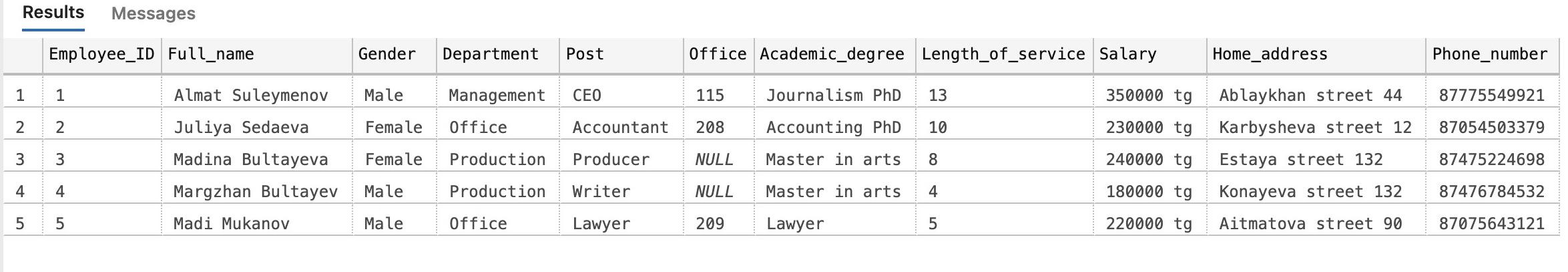
**Create the actual database for your story on your installed software.**

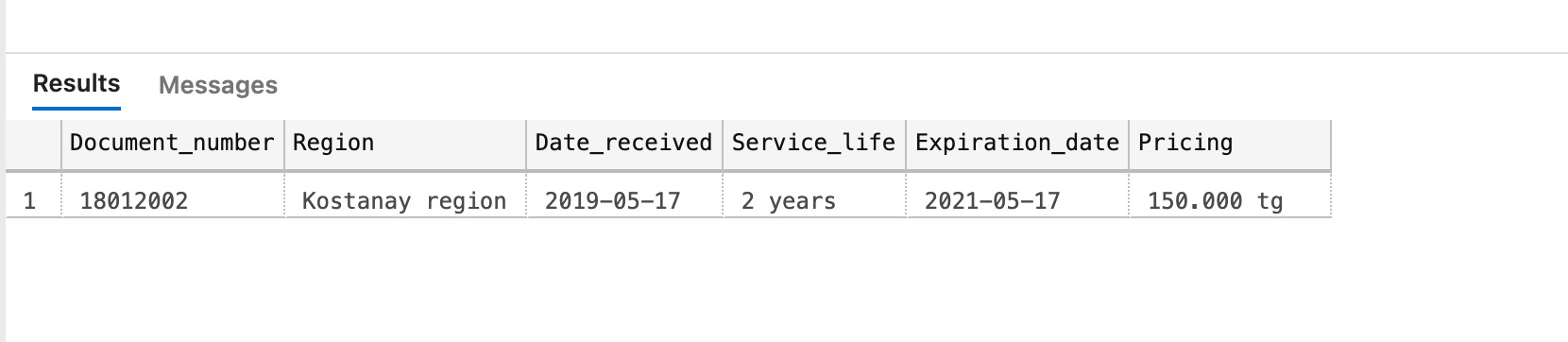
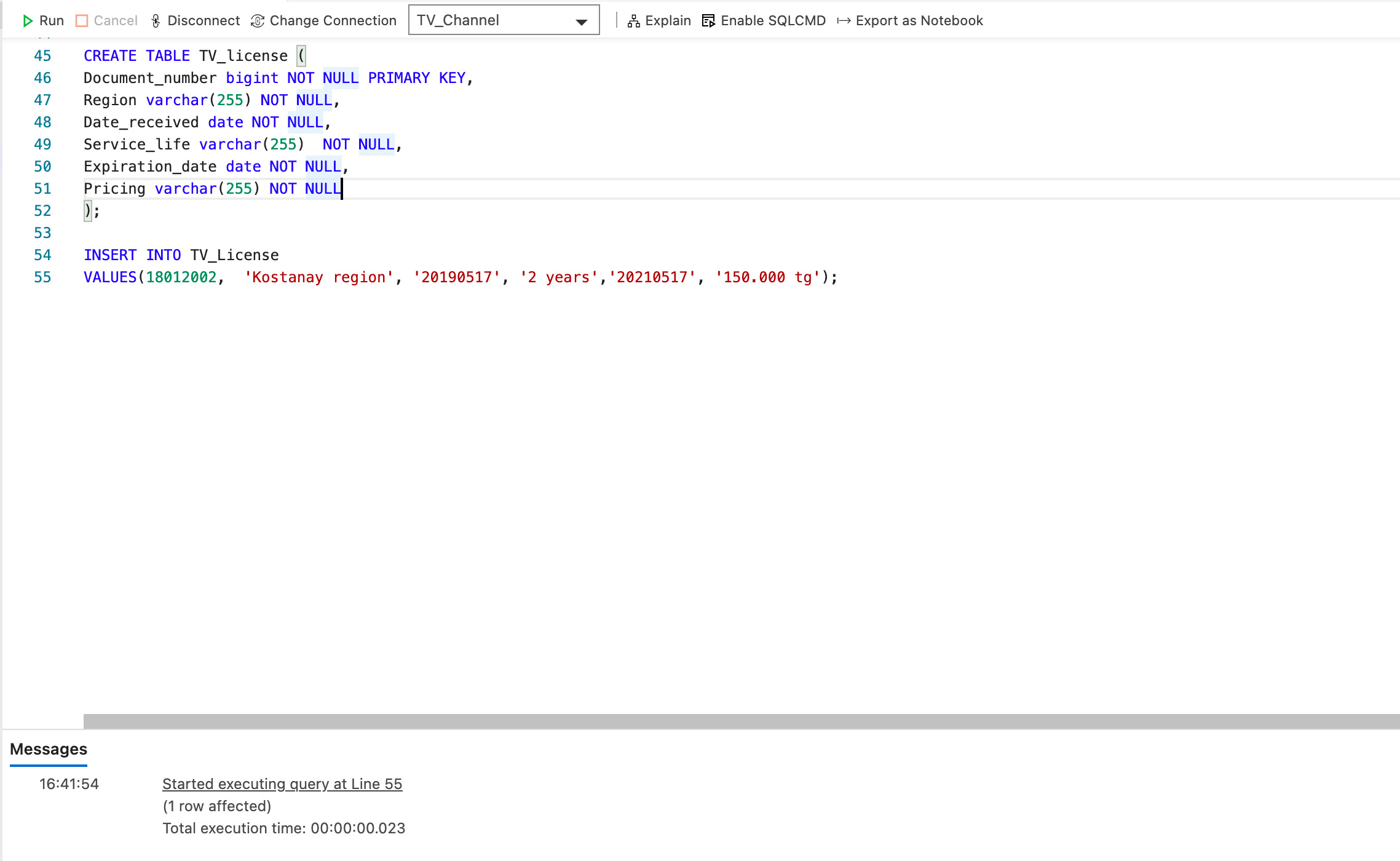
1. ***Creating*** and ***inserting*** ‘TV\_Channel’ table

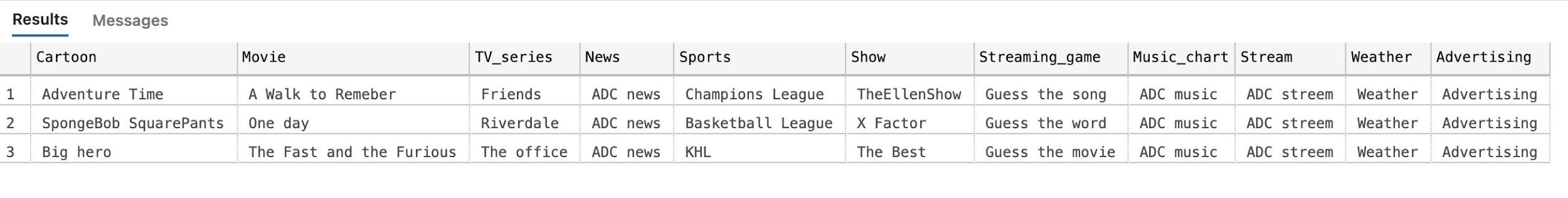


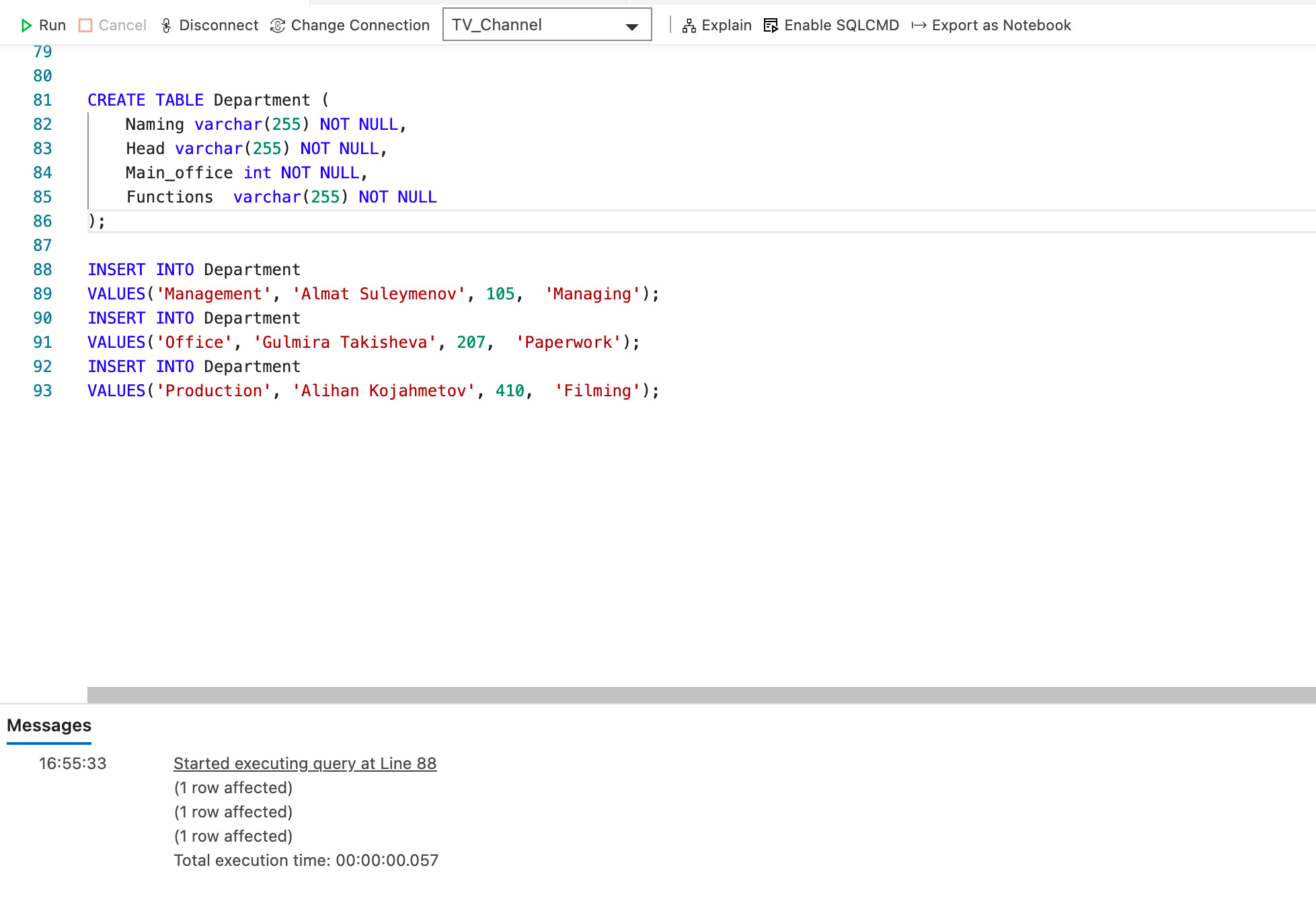


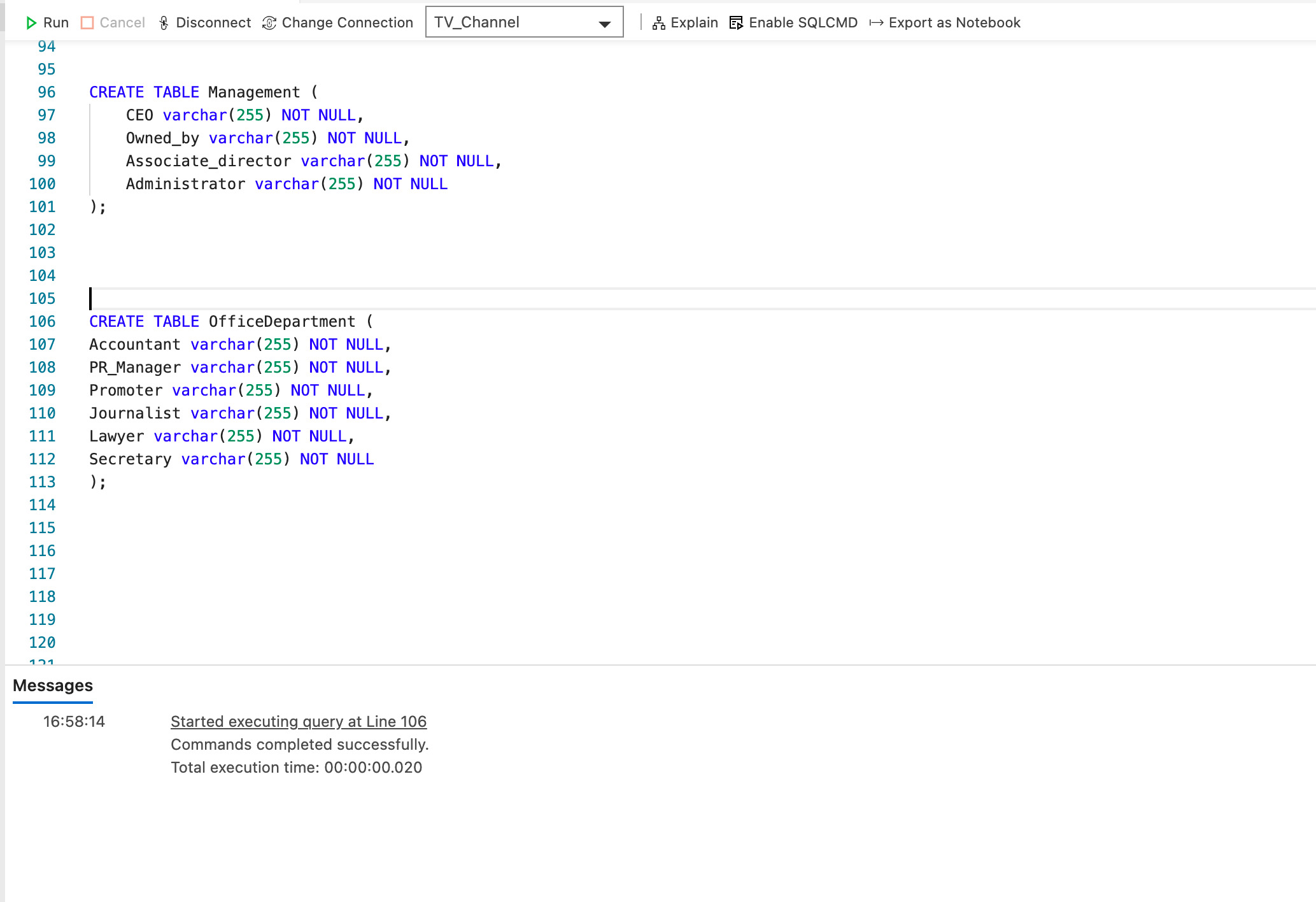
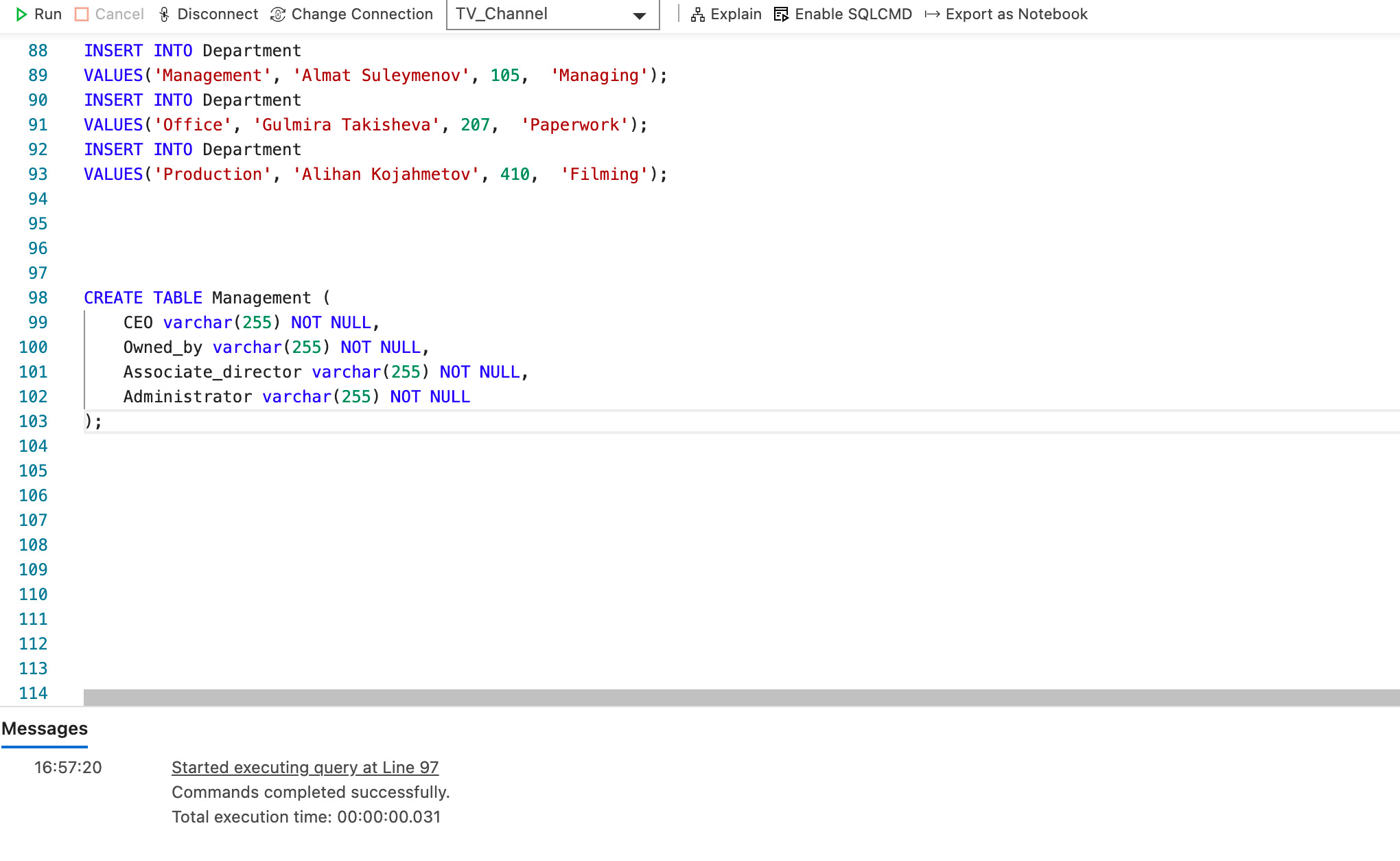
2. ***Creating*** and ***inserting*** ‘Employee’ table

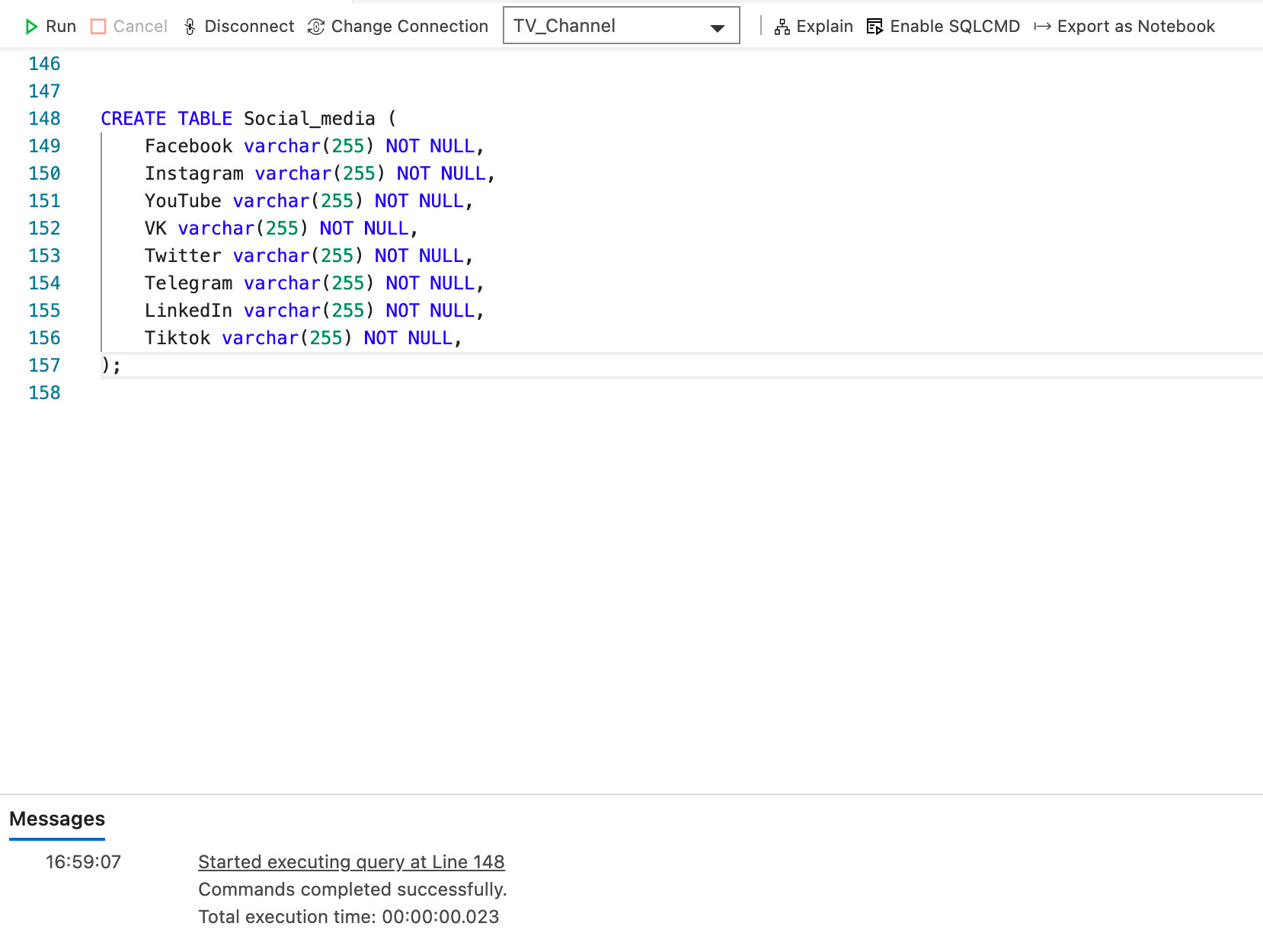


3. ***Creating*** and ***inserting*** ‘TV\_License’ table 

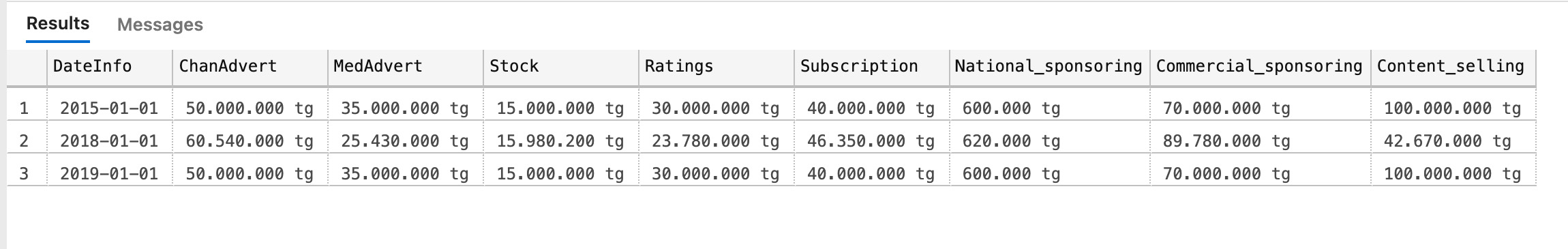
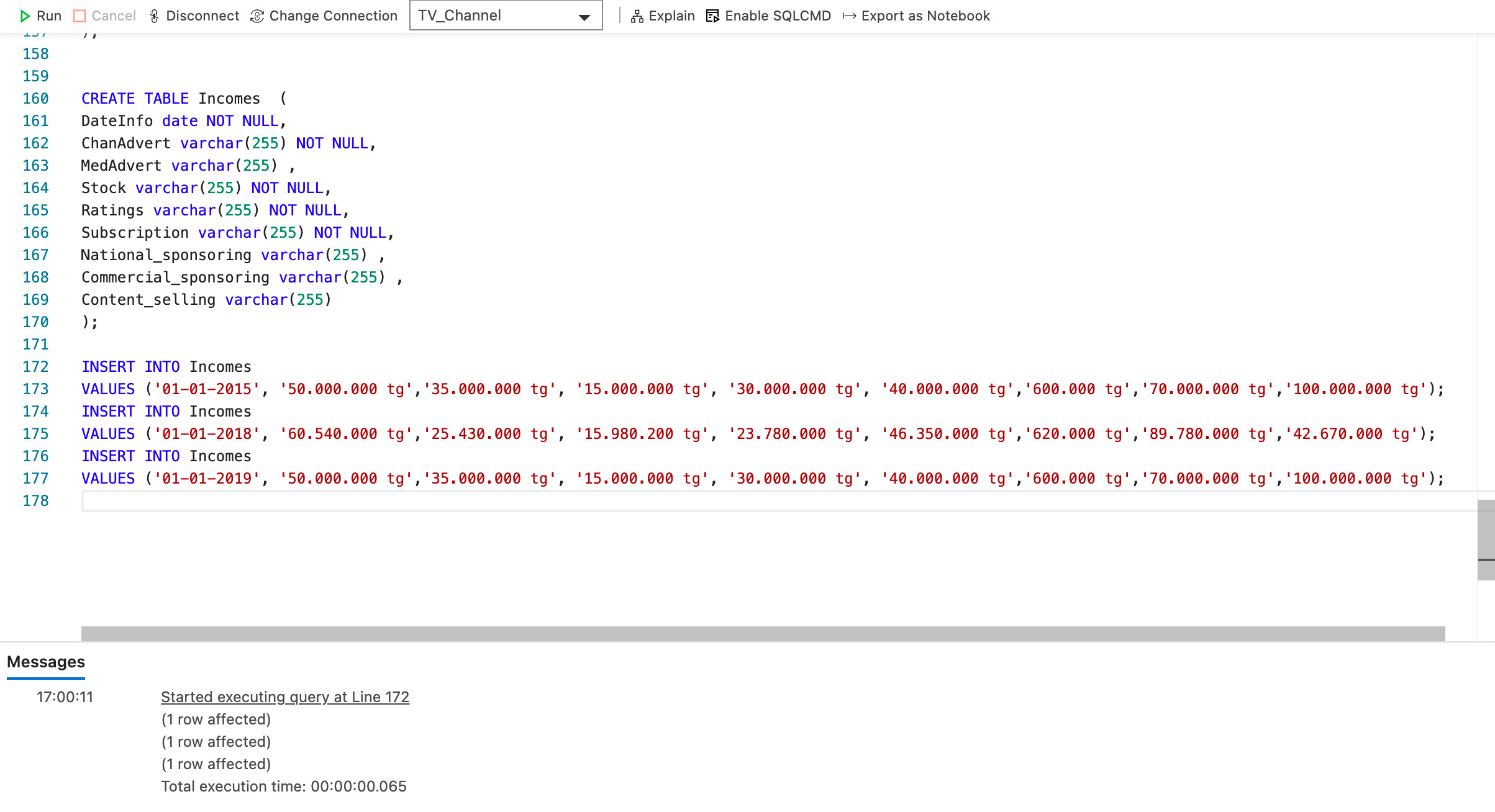
4. ***Creating*** and ***inserting*** ‘Content’ table

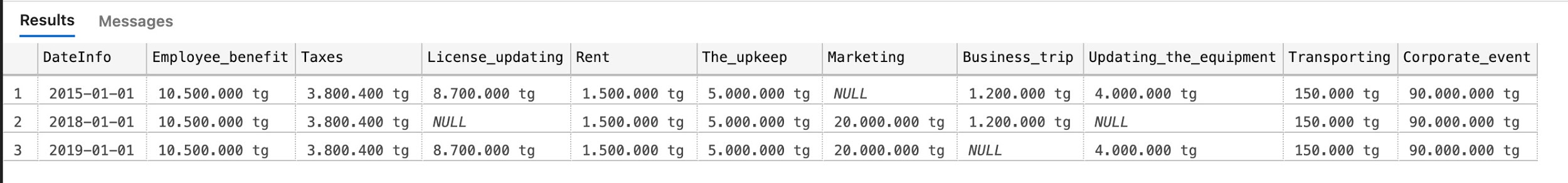
5. ***Creating*** and ***interesting*** ‘Department’ table

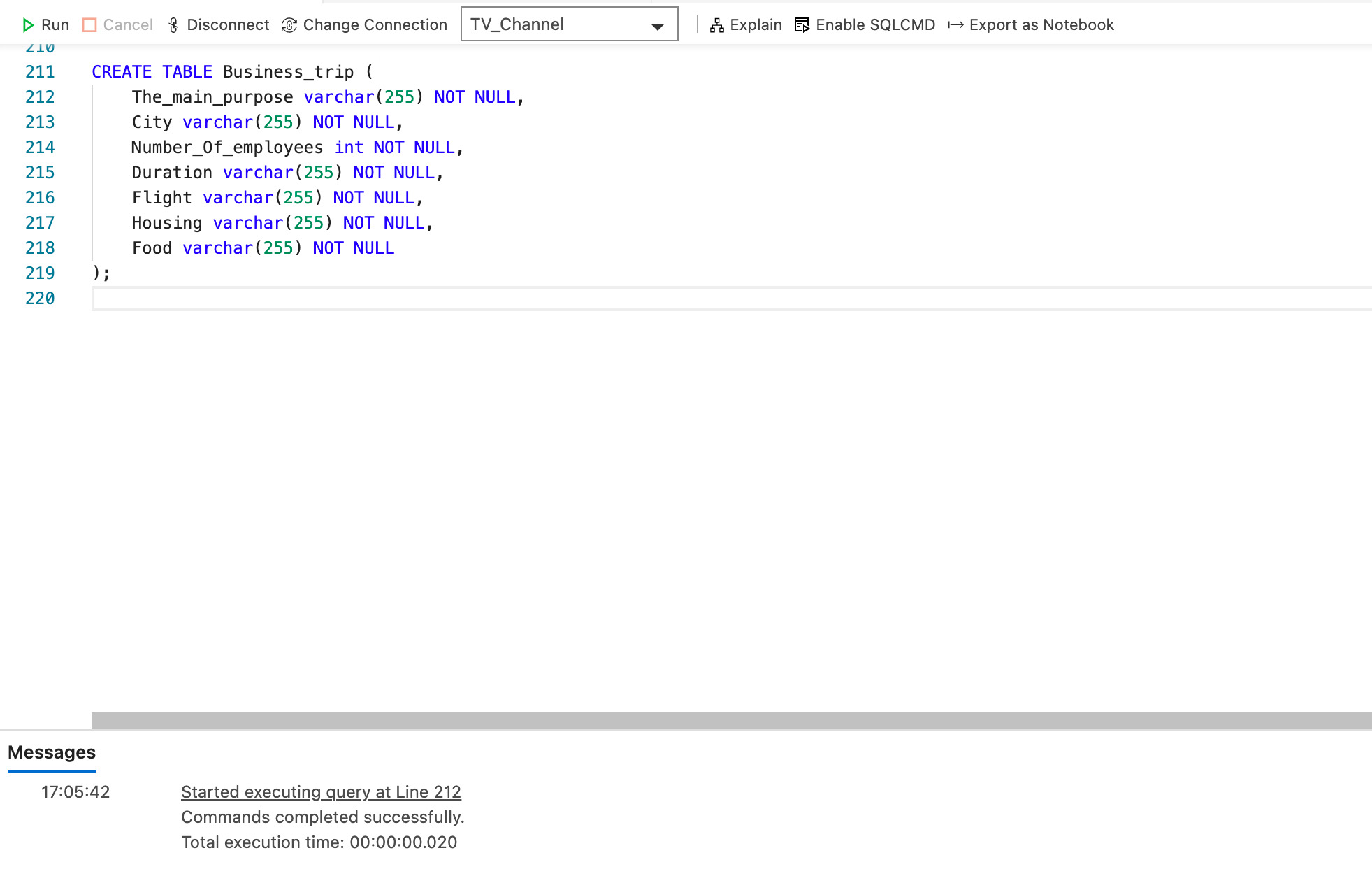
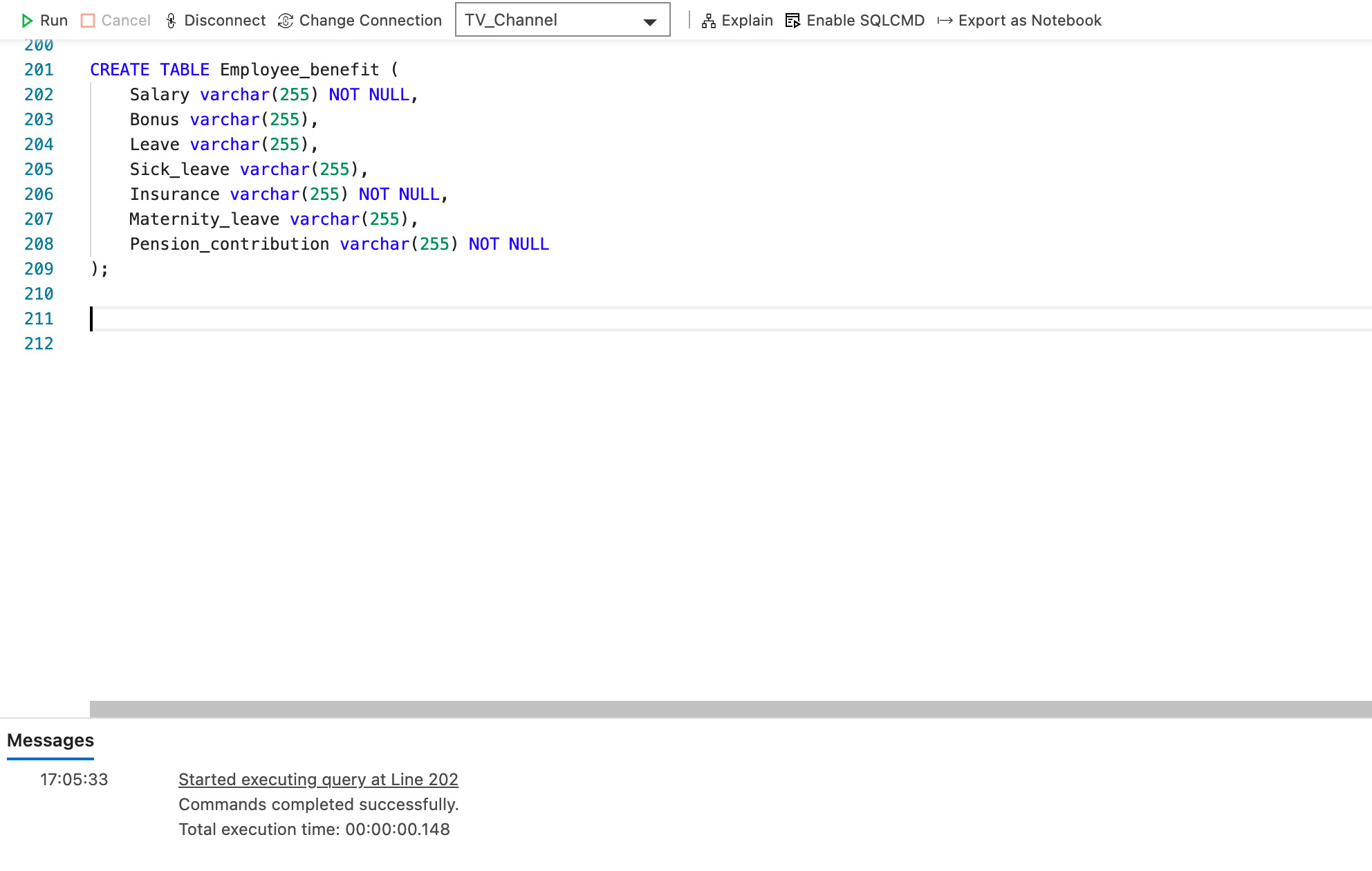
6. ***Creating*** ‘Management’, ‘OfficeDepartment’, and ‘Production’ tables 

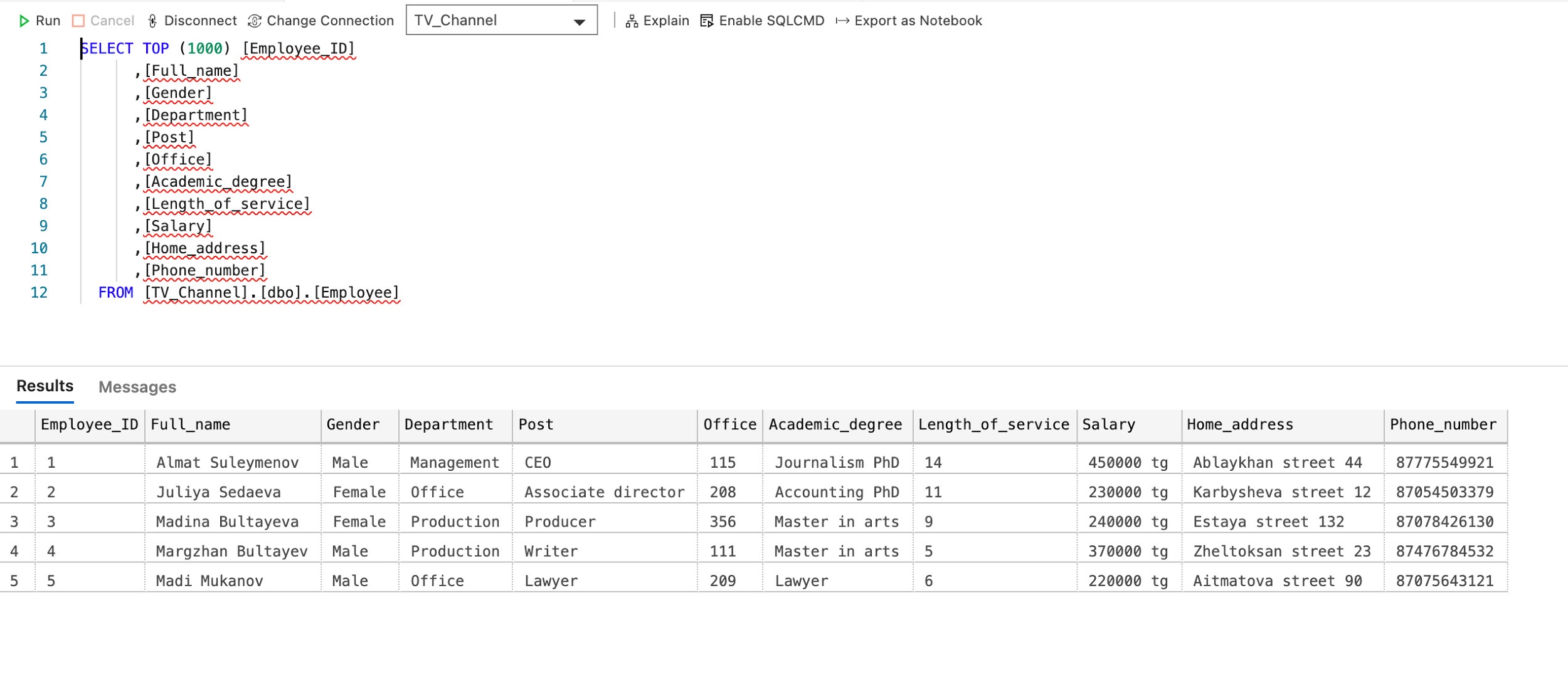
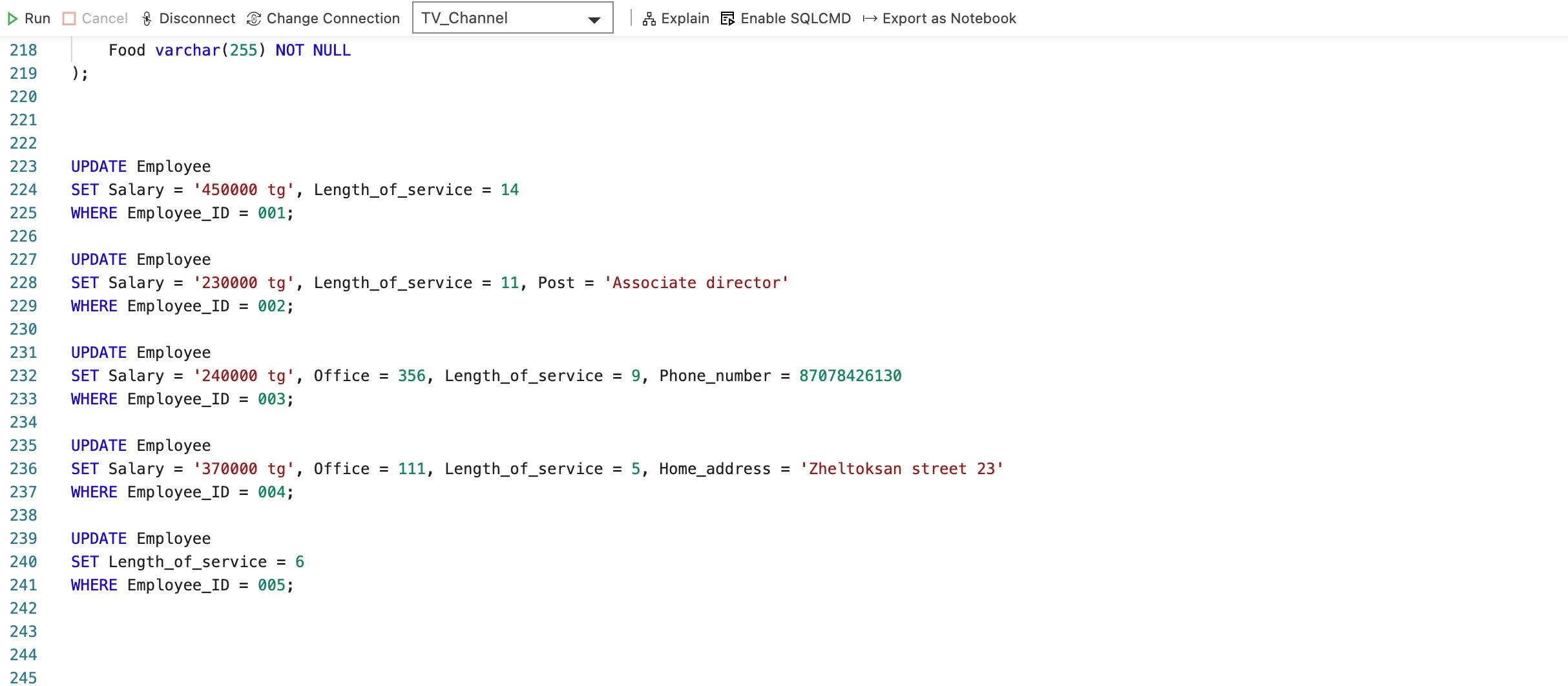
7. ***Creating*** ‘Contacts’, ‘Social media’ tables

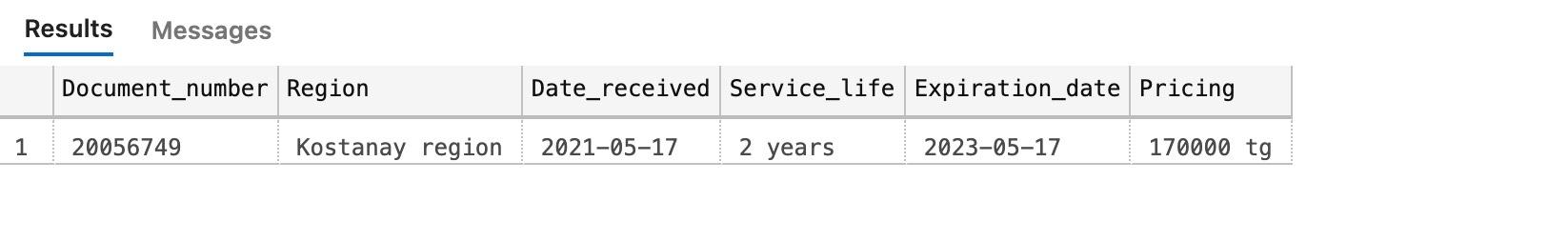
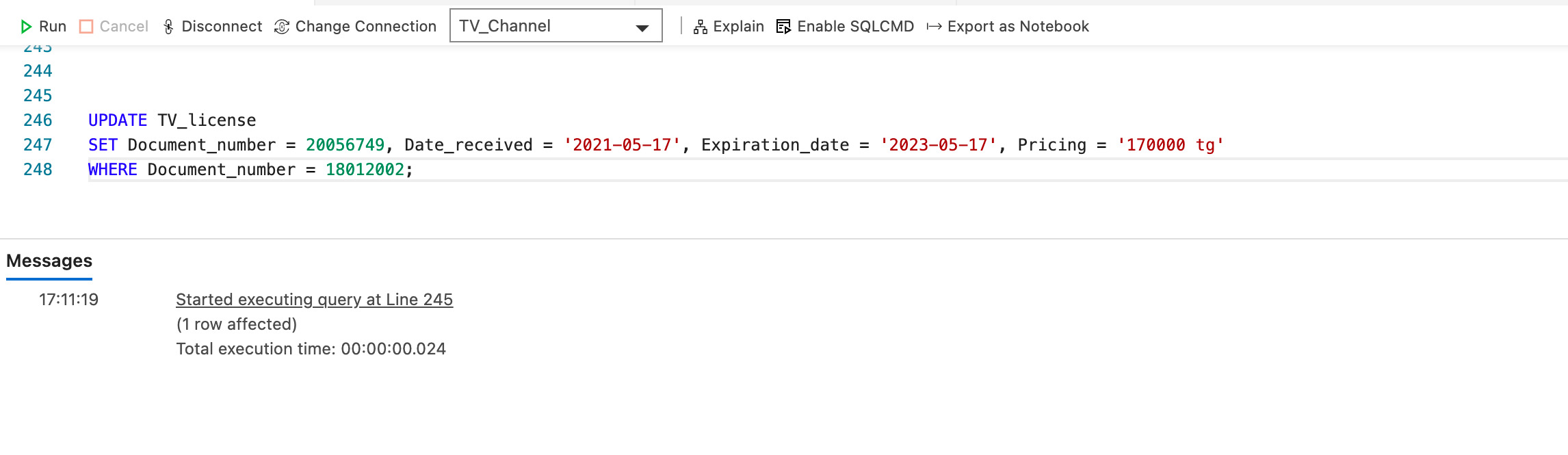
8. ***Creating*** and ***inserting*** ‘Incomes’ table

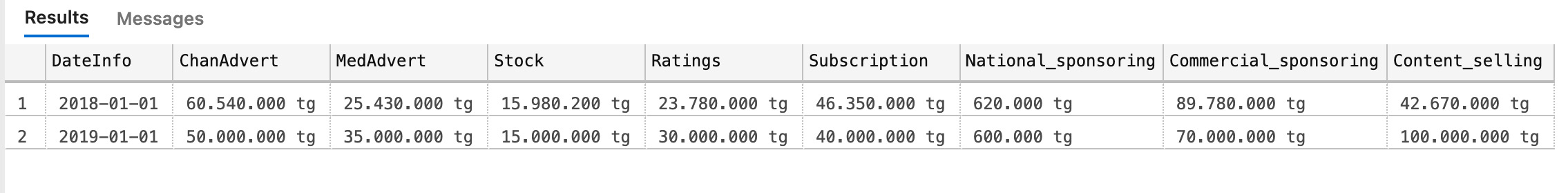
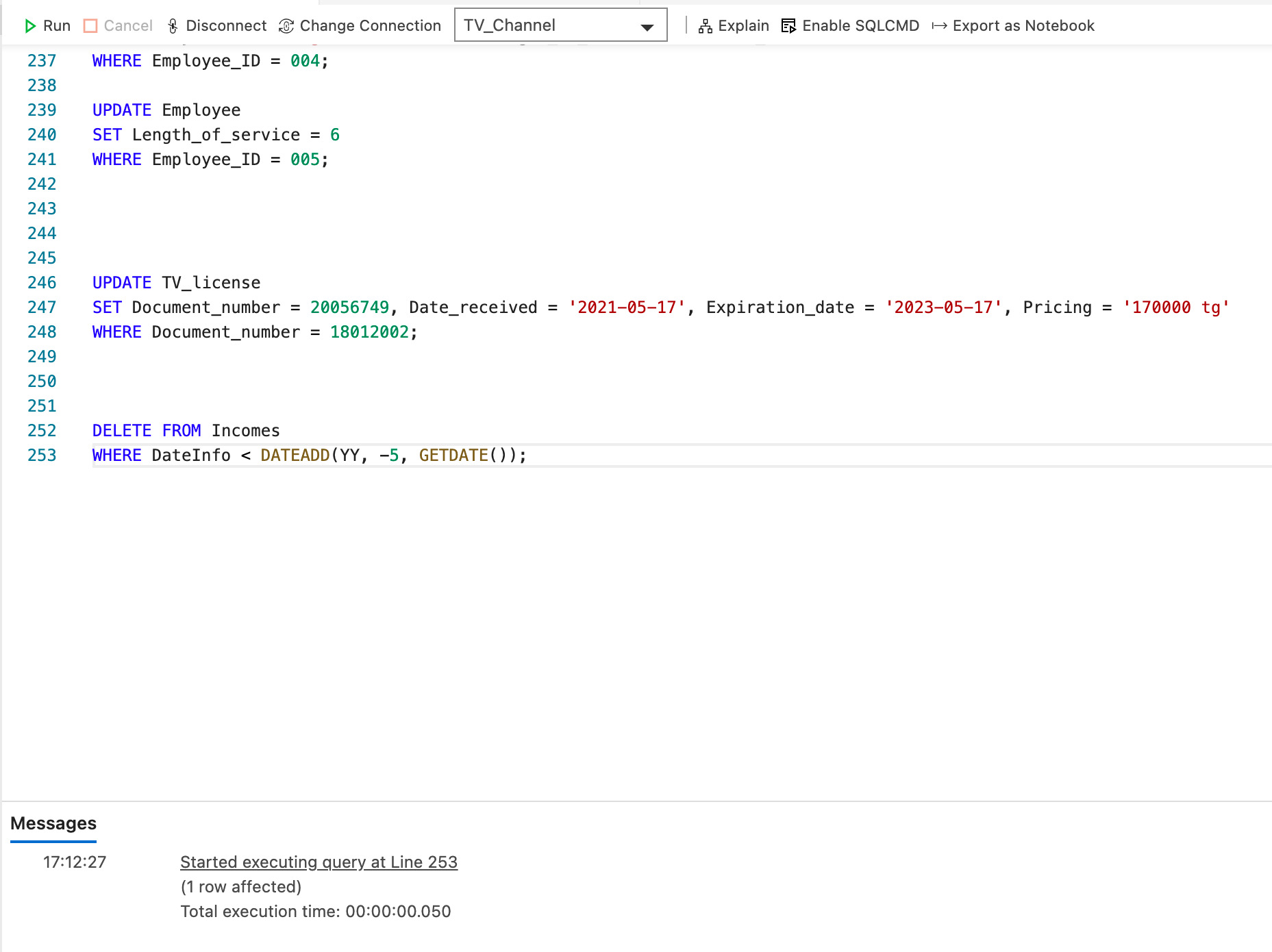


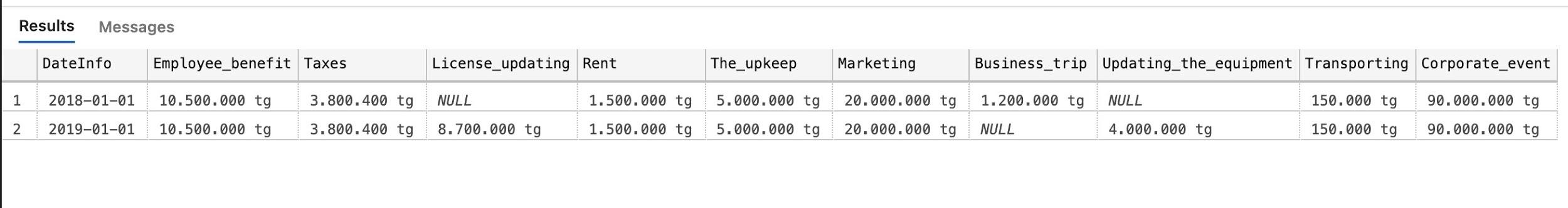
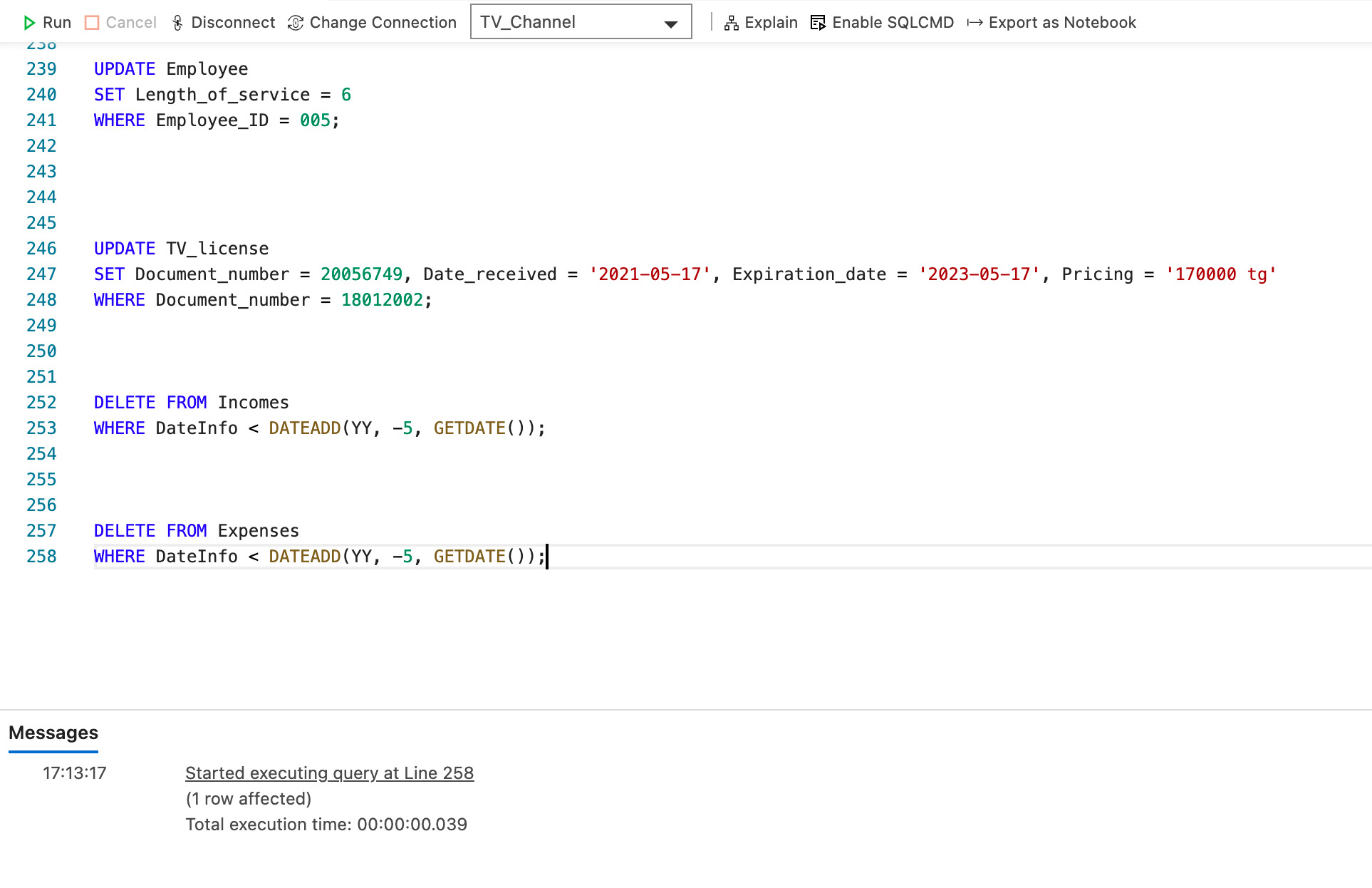
9. ***Creating*** and ***inserting*** ‘Expenses’ table

10. ***Creating*** ‘Employee\_benefit’, ‘Business\_trip’ 

11. ***Updating*** ‘Employee’ table 

12. ***Updating*** ‘TV\_License’

13. ***Deleting*** from ‘Incomes’ table 

14. ***Deleting*** from ‘Expenses’ table

**Also you may see the code in text format:**

CREATE DATABASE TV\_Channel;

CREATE TABLE TV\_Channel (

ChannelID bigint NOT NULL PRIMARY KEY,

Name varchar(255) NOT NULL,

Tagline varchar(255) NOT NULL,

Digital\_TV\_Family varchar(255),

TV\_License varchar(255) NOT NULL,

Service\_type varchar(255) NOT NULL,

Image\_formatting varchar(255) NOT NULL,

Is\_active\_since date NOT NULL,

Starting\_time time NOT NULL,

Ending\_time time NOT NULL,

The\_channel\_voice varchar(255)

);

INSERT INTO TV\_Channel

VALUES (011218, 'ADC', ' "Step Up" ', 'ADC fam', '№551234', 'Satellite', '576x1080', '04-03-2006', '09:00:00', '06:00:00' , 'Sultanov Alan');

CREATE TABLE Employee (

Employee\_ID bigint NOT NULL PRIMARY KEY,

Full\_name varchar(255) NOT NULL,

Gender varchar(255) NOT NULL,

Department varchar(255) NOT NULL,

Post varchar(255) NOT NULL,

Office int ,

Academic\_degree varchar(255) ,

Length\_of\_service int NOT NULL,

Salary varchar(255) NOT NULL,

Home\_address varchar(255) NOT NULL,

Phone\_number bigint NOT NULL

);

INSERT INTO Employee

VALUES (001, 'Almat Suleymenov', 'Male', 'Management', 'CEO', 115, 'Journalism PhD', 13, '350000 tg', 'Ablaykhan street 44', 87775549921);

INSERT INTO Employee

VALUES (002, 'Juliya Sedaeva', 'Female', 'Office', 'Accountant', 208, 'Accounting PhD', 10, '230000 tg', 'Karbysheva street 12', 87054503379);

INSERT INTO Employee

VALUES (003, 'Madina Bultayeva', 'Female', 'Production', 'Producer', NULL, 'Master in arts', 8, '240000 tg', 'Estaya street 132', 87475224698);

INSERT INTO Employee

VALUES (004, 'Margzhan Bultayev', 'Male', 'Production', 'Writer', NULL, 'Master in arts', 4, '180000 tg', 'Konayeva street 132', 87476784532);

INSERT INTO Employee

VALUES (005, 'Madi Mukanov', 'Male', 'Office', 'Lawyer', 209, 'Lawyer', 5, '220000 tg', 'Aitmatova street 90', 87075643121);

CREATE TABLE TV\_license (

Document\_number bigint NOT NULL PRIMARY KEY,

Region varchar(255) NOT NULL,

Date\_received date NOT NULL,

Service\_life varchar(255) NOT NULL,

Expiration\_date date NOT NULL,

Pricing varchar(255) NOT NULL

);

INSERT INTO TV\_License

VALUES(18012002, 'Kostanay region', '20190517', '2 years','20210517', '150.000 tg');

CREATE TABLE Content (

Cartoon varchar(255),

Movie varchar(255) ,

TV\_series varchar(255) ,

News varchar(255) ,

Sports varchar(255) ,

Show varchar(255) ,

Streaming\_game varchar(255) ,

Music\_chart varchar(255) ,

Stream varchar(255) ,

Weather varchar(255) ,

Advertising varchar(255) ,

);

INSERT INTO Content

VALUES ('Adventure Time', 'A Walk to Remeber', 'Friends', 'ADC news', 'Champions League', 'TheEllenShow', 'Guess the song','ADC music', 'ADC streem', 'Weather', 'Advertising')

INSERT INTO Content

VALUES ('SpongeBob SquarePants', 'One day', 'Riverdale', 'ADC news', 'Basketball League', 'X Factor', 'Guess the word', 'ADC music', 'ADC streem', 'Weather', 'Advertising');

INSERT INTO Content

VALUES ('Big hero', 'The Fast and the Furious', 'The office', 'ADC news', 'KHL', 'The Best', 'Guess the movie', 'ADC music', 'ADC streem', 'Weather', 'Advertising');

CREATE TABLE Department (

Naming varchar(255) NOT NULL,

Head varchar(255) NOT NULL,

Main\_office int NOT NULL,

Functions varchar(255) NOT NULL

);

INSERT INTO Department

VALUES('Management', 'Almat Suleymenov', 105, 'Managing');

INSERT INTO Department

VALUES('Office', 'Gulmira Takisheva', 207, 'Paperwork');

INSERT INTO Department

VALUES('Production', 'Alihan Kojahmetov', 410, 'Filming');

CREATE TABLE Management (

CEO varchar(255) NOT NULL,

Owned\_by varchar(255) NOT NULL,

Associate\_director varchar(255) NOT NULL,

Administrator varchar(255) NOT NULL

);

CREATE TABLE OfficeDepartment (

Accountant varchar(255) NOT NULL,

PR\_Manager varchar(255) NOT NULL,

Promoter varchar(255) NOT NULL,

Journalist varchar(255) NOT NULL,

Lawyer varchar(255) NOT NULL,

Secretary varchar(255) NOT NULL

);

CREATE TABLE Production (

Director varchar(255) NOT NULL,

Sound\_producer varchar(255) NOT NULL,

Artistic\_director varchar(255) NOT NULL,

Cameraman varchar(255) NOT NULL,

Writer varchar(255) NOT NULL,

Editor varchar(255) NOT NULL,

TV\_Host varchar(255) NOT NULL,

Actor varchar(255) NOT NULL,

Understudy varchar(255) NOT NULL,

Voice\_actor varchar(255) NOT NULL,

Makeup\_artist varchar(255) NOT NULL,

Stylist varchar(255) NOT NULL,

Producer varchar(255) NOT NULL,

Technician varchar(255) NOT NULL

);

CREATE TABLE Contacts(

Email varchar(255) NOT NULL PRIMARY KEY,

Call\_center int NOT NULL,

Postal\_code bigint NOT NULL,

Fax bigint NOT NULL,

Official\_website varchar(255) NOT NULL,

Headhunter varchar(255) NOT NULL

);

CREATE TABLE Social\_media (

Facebook varchar(255) NOT NULL,

Instagram varchar(255) NOT NULL,

YouTube varchar(255) NOT NULL,

VK varchar(255) NOT NULL,

Twitter varchar(255) NOT NULL,

Telegram varchar(255) NOT NULL,

LinkedIn varchar(255) NOT NULL,

Tiktok varchar(255) NOT NULL,

);

CREATE TABLE Incomes (

DateInfo date NOT NULL,

ChanAdvert varchar(255) NOT NULL,

MedAdvert varchar(255) ,

Stock varchar(255) NOT NULL,

Ratings varchar(255) NOT NULL,

Subscription varchar(255) NOT NULL,

National\_sponsoring varchar(255) ,

Commercial\_sponsoring varchar(255) ,

Content\_selling varchar(255)

);

INSERT INTO Incomes

VALUES ('01-01-2015', '50.000.000 tg','35.000.000 tg', '15.000.000 tg', '30.000.000 tg', '40.000.000 tg','600.000 tg','70.000.000 tg','100.000.000 tg');

INSERT INTO Incomes

VALUES ('01-01-2018', '60.540.000 tg','25.430.000 tg', '15.980.200 tg', '23.780.000 tg', '46.350.000 tg','620.000 tg','89.780.000 tg','42.670.000 tg');

INSERT INTO Incomes

VALUES ('01-01-2019', '50.000.000 tg','35.000.000 tg', '15.000.000 tg', '30.000.000 tg', '40.000.000 tg','600.000 tg','70.000.000 tg','100.000.000 tg');

CREATE TABLE Expenses (

DateInfo date NOT NULL,

Employee\_benefit varchar(255) NOT NULL,

Taxes varchar(255) NOT NULL,

License\_updating varchar(255),

Rent varchar(255) NOT NULL,

The\_upkeep varchar(255) NOT NULL,

Marketing varchar(255) ,

Business\_trip varchar(255) ,

Updating\_the\_equipment varchar(255),

Transporting varchar(255) NOT NULL,

Corporate\_event varchar(255) NOT NULL

);

INSERT INTO Expenses

VALUES ('01-01-2015', '10.500.000 tg', '3.800.400 tg', '8.700.000 tg', '1.500.000 tg', '5.000.000 tg', NULL, '1.200.000 tg', '4.000.000 tg', '150.000 tg', '90.000.000 tg');

INSERT INTO Expenses

VALUES ('01-01-2018', '10.500.000 tg', '3.800.400 tg', NULL, '1.500.000 tg', '5.000.000 tg', '20.000.000 tg', '1.200.000 tg', NULL, '150.000 tg', '90.000.000 tg');

INSERT INTO Expenses

VALUES ('01-01-2019', '10.500.000 tg', '3.800.400 tg', '8.700.000 tg', '1.500.000 tg', '5.000.000 tg', '20.000.000 tg', NULL, '4.000.000 tg', '150.000 tg', '90.000.000 tg');

CREATE TABLE Employee\_benefit (

Salary varchar(255) NOT NULL,

Bonus varchar(255),

Leave varchar(255),

Sick\_leave varchar(255),

Insurance varchar(255) NOT NULL,

Maternity\_leave varchar(255),

Pension\_contribution varchar(255) NOT NULL

);

CREATE TABLE Business\_trip (

The\_main\_purpose varchar(255) NOT NULL,

City varchar(255) NOT NULL,

Number\_Of\_employees int NOT NULL,

Duration varchar(255) NOT NULL,

Flight varchar(255) NOT NULL,

Housing varchar(255) NOT NULL,

Food varchar(255) NOT NULL

);

UPDATE Employee

SET Salary = '450000 tg', Length\_of\_service = 14

WHERE Employee\_ID = 001;

UPDATE Employee

SET Salary = '230000 tg', Length\_of\_service = 11, Post = 'Associate director'

WHERE Employee\_ID = 002;

UPDATE Employee

SET Salary = '240000 tg', Office = 356, Length\_of\_service = 9, Phone\_number = 87078426130

WHERE Employee\_ID = 003;

UPDATE Employee

SET Salary = '370000 tg', Office = 111, Length\_of\_service = 5, Home\_address = 'Zheltoksan street 23'

WHERE Employee\_ID = 004;

UPDATE Employee

SET Length\_of\_service = 6

WHERE Employee\_ID = 005;

UPDATE TV\_license

SET Document\_number = 20056749, Date\_received = '2021-05-17', Expiration\_date = '2023-05-17', Pricing = '170000 tg'

WHERE Document\_number = 18012002;

DELETE FROM Incomes

WHERE DateInfo < DATEADD(YY, -5, GETDATE());

DELETE FROM Expenses

WHERE DateInfo < DATEADD(YY, -5, GETDATE());