



GROUP 8: PROJECT REPORT

NETFLIX

GROUP MEMBERS

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Description of the Company

Netflix is a subscription-based streaming service that allows our members to watch TV shows and movies on an internet-connected device. Depending on your plan, you can also download TV shows and movies to your iOS, Android, or Windows 10 device and watch without an internet connection. Netflix content varies by region and may change over time. You can watch a variety of award-winning Netflix originals, TV shows, movies, documentaries, and more. The more you watch, the better Netflix gets at recommending TV shows and movies. You can watch Netflix through any internet-connected device that offers the Netflix app, including smart TVs, game consoles, streaming media players, set-top boxes, smartphones, and tablets. You can also watch Netflix on your computer using an internet browser. Each Netflix plan determines the number of devices you can watch Netflix on at the same time and whether you can watch in High Definition (HD), Full High Definition (FHD), or Ultra High Definition (UHD).

The goal of Netflix is to entertain the world. Regardless of users' tastes, their location Netflix wants to give access to best-in-class TV shows, documentaries, feature films, and mobile games without any ads.

User Requirements

The users of Netflix would expect the following

- Seamless Sign up flow
 - One customer can sign up only once
 - A customer uses Mobile Number. One mobile number can be used for only one sign-up. Every time a new customer signs up, a unique customer ID is generated and assigned to that customer
 - During sign-up, we capture the mobile number, device type where the customer is trying to sign up (Mobile, Laptop, TV), Primary language selected, date of sign-up, First Name, Last Name, and Country are also captured
- Easy login flow
 - Each login leads to a session for a customer, which is identified by the Session ID
 - Customer ID, login time, and logout time is recorded for every session. Logout time is the time when the session ends. The difference between login time and logout time is the session length. The device type is also captured where the customer has logged in
- Multiple profiles
 - When a user logs in, they can choose a profile and watch the content in that profile.
 - Each profile has a unique Profile ID and Profile Name
- Types of content
 - There are only 2 types of content on Netflix which are movies and series
 - Every content on Netflix has a unique Content ID, the title of the content, Genre, Language, release date, and rating
 - Series also has Season and episode as other attributes whereas a movie has Director as an attribute
- Understanding all subscription plans

- Netflix has many subscription plans, but each plan has a unique Subscription ID, price of the subscription, Number of devices you can watch Netflix on with that particular subscription, and definition (UHD, HD, etc.)
- Easy payment flow
 - Every user can set up a single payment method on Netflix from where the money is deducted from their subscriptions
 - Every customer, when they choose a subscription plan, sets up a payment method that captures the payment type if it's a credit or debit card, masked card number, masked CVV, cardholder name, and expiry. The details of the card are saved in masked format to ensure financial security
- Ability to add stuff to their watchlist to watch later
 - User can add stuff to their watchlist to watch later on their profiles
 - Each watchlist created has a unique watchlist ID.
- Play games on mobile
 - Every game on Netflix will have a unique game id. It also has the genre of the game, the title of the game, and the release date

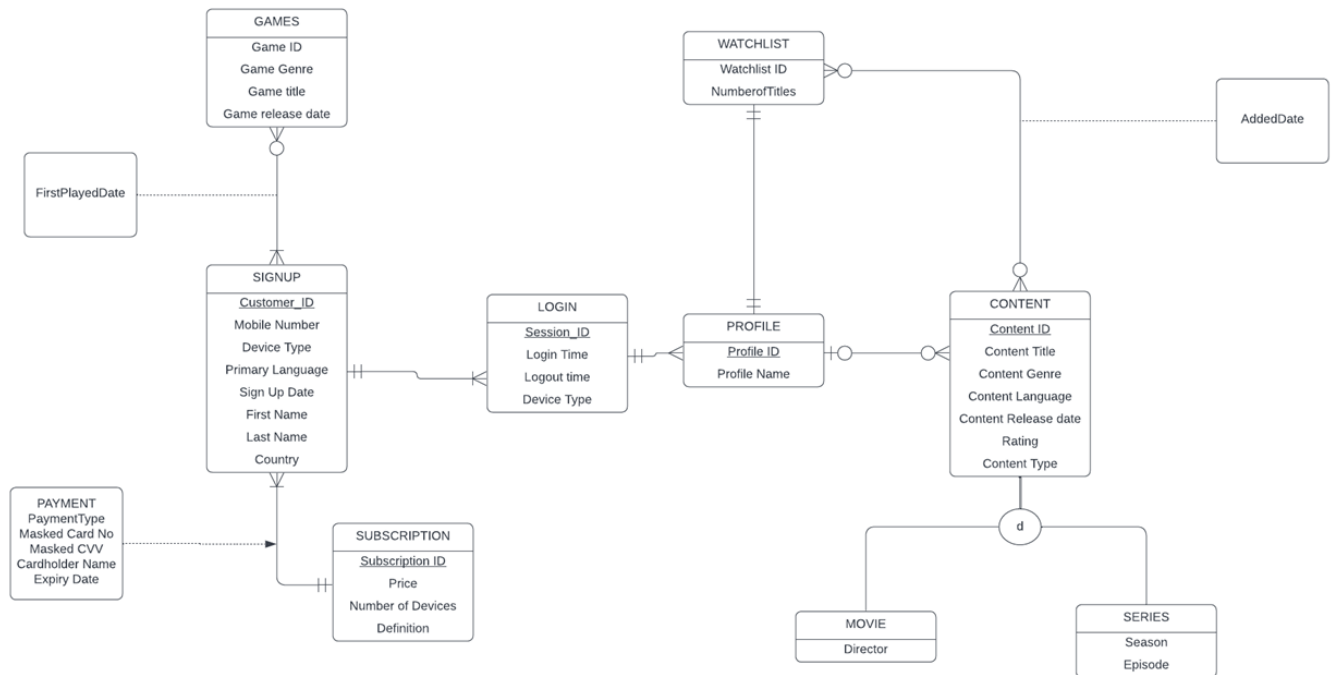
Cardinality Constraints

- One user can sign up only once which assigns the user a unique customer ID
- One user can log in multiple times. Every time a user logs in, a new session is created, which is identified by the session ID. Each session belongs to only one user
- There are only 2 types of content, Series, and movies and for this project, we will not consider any other types of content. Content can only be either series or a movie, but not both
- One user can take only one subscription at one time and one subscription plan can be subscribed to by many users
- A customer can set up only one payment method. The payment method is used to pay the subscription for that customer
- A customer can add any number of content to his/her watchlist. Any content can be added to the watchlist by any number of customers

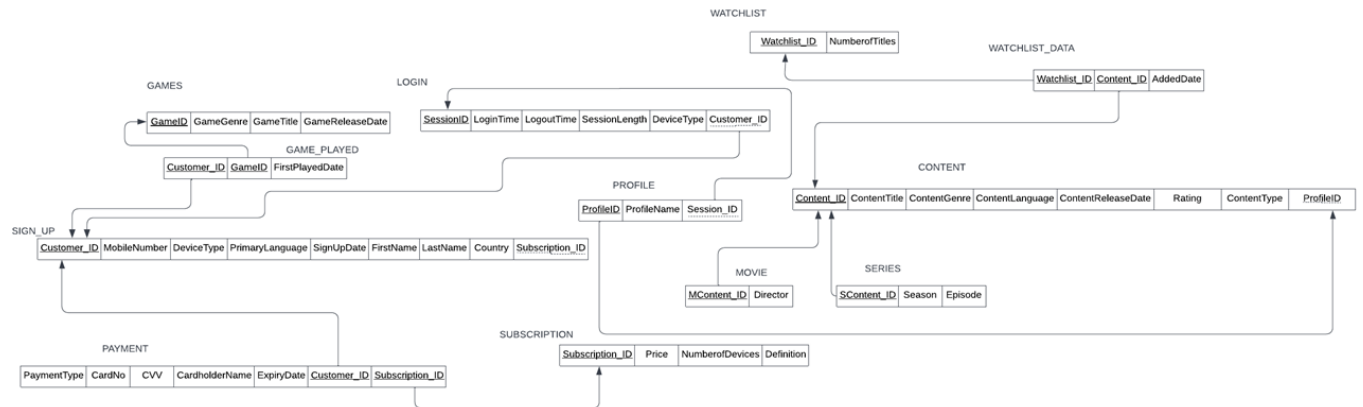
- A customer can play any number of mobile games and a mobile game can be played by any number of customers
- A customer can watch many different contents in one session and the same content can be watched multiple times on multiple session
- Each Profile will have one watchlist and every watchlist is associated with only one profile.

Based on the above details, the ERD diagram is presented below

ERD Model



Relational Model



Database Metadata

GAMES

Attribute	Datatype	Size	Auto	Null allowed?	Constraint
GameID	Int	11	Yes	No	Primary Key
GameGenre	Varchar	11	No	Yes	
GameTitle	Varchar	50	No	No	
GameReleaseDate	date		No	Yes	

GAME_PLAYED

Attribute	Datatype	Size	Auto	Null allowed?	Constraint
CustomerID	Int	11	No	No	Part of Primary, Foreign
GameID	Int	11	No	No	Part of Primary, Foreign
FirstPlayedDate	Date		No	No	

SIGNUP

Attribute	Datatype	Size	Auto	Null allowed?	Constraint
CustomerID	Int	11	Yes	No	Primary
MobileNumber	Int	10	No	Yes	
<u>SignupDeviceType</u>	Varchar	10	No	No	
PrimaryLanguage	Varchar	10	No	No	
SignupDate	Date		No	No	
FirstName	Varchar	20	No	Yes	
LastName	Varchar	20	No	Yes	
Country	Varchar	30	No	No	
SubscriptionID	Int	11	No	No	Foreign

PAYMENT

Attribute	Datatype	Size	Auto	Null allowed?	Constraint
SubscriptionID	Int	11	No	No	Part of Primary, Foreign
CustomerID	Int	11	No	No	Part of Primary, Foreign
PaymentType	Varchar	30	No	No	
CardNo	Int	16	No	No	
CVV	Int	4	No	No	
CardHolderName	Varchar	30	No	No	
ExpiryDate	Date		No	No	

LOGIN

Attribute	Datatype	Size	Auto	Null allowed?	Constraint
SessionID	Int	11	Yes	No	Primary
LoginTime	Date		No	No	
<u>LogoutTime</u>	Date		No	No	
LoginDeviceType	Varchar	30	No	No	
CustomerID	Int	11	No	No	Foreign

PROFILE_SELECTED

Attribute	Datatype	Size	Auto	Null allowed?	Constraint
ProfileID	Int	11	Yes	No	Primary
ProfileName	Varchar	30	No	Yes	
SessionID	Int	11	No	No	Foreign

SUBSCRIPTION

Attribute	Datatype	Size	Auto	Null allowed?	Constraint
SubscriptionID	Int	11	Yes	No	Primary
Price	Float	11	No	No	
NumberOfDevices	Int	3	No	No	
Definition	Varchar	11	No	No	

WATCHLIST

Attribute	Datatype	Size	Auto	Null allowed?	Constraint
WatchlistID	Int	11	Yes	No	Primary
NumberOfTitles	Int	5	No	Yes	

WATCHLIST_DATA

Attribute	Datatype	Size	Auto	Null allowed?	Constraint
WatchlistID	Int	11	No	No	Part of Primary, Foreign
ContentID	Int	11	No	No	Part of Primary, Foreign
AddedDate	Date		No	No	

CONTENT

Attribute	Datatype	Size	Auto	Null allowed?	Constraint
ContentID	Int	11	Yes	No	Primary
ContentTitle	Varchar	30	No	No	
ContentGenre	Varchar	30	No	Yes	
ContentLanguage	Varchar	30	No	No	
ContentReleaseDate	Varchar	30	No	No	
ContentRating	float	5	No	Yes	
ContentType	Varchar	30	No	No	
ProfileID	Int	11	No	No	Foreign

MOVIE

Attribute	Datatype	Size	Auto	Null allowed?	Constraint
MContentID	Int	11	No	No	Primary
Director	Varchar	30	No	Yes	

SERIES

Attribute	Datatype	Size	Auto	Null	Constraint
SContentID	Int	11	No	No	Primary
Season	Int	3	No	No	
Episode	Int	3	No	No	



Creating Database and Tables

```
Create database Netflix;  
use Netflix;
```

```
CREATE TABLE Games  
(GameID int (11) not null auto_increment,  
GameGenre varchar (11),  
GameTitle varchar (50) not null,  
GameReleaseDate date,  
CONSTRAINT game_pk PRIMARY KEY (GameID));
```

```
Create table Subscription  
(SubscriptionId int (11) not null auto_increment,  
Price float (11) not null,  
NumberOfDevices int (3) not null,  
Definition varchar (11) not null,  
Constraint subscription_pk Primary Key (SubscriptionID));
```

```
Create table Watchlist  
(WatchlistID int (11) not null auto_increment,  
NumberOfTitles int (5),  
Constraint watchlist_pk Primary Key (WatchlistID));
```

```
Create table SignUp  
(CustomerID int (11) not null auto_increment,
```

MobileNumber int (10),
SignupDevice Varchar (10) not null,
PrimaryLanguage varchar (10) not null,
SignupDate date not null,
FirstName varchar (20),
LastName varchar (20),
Country varchar (30),
SubscriptionID int (11) not null,
constraint signup_pk primary key (CustomerID),
constraint signup_fk FOREIGN KEY(SubscriptionID) REFERENCES Subscription
(SubscriptionID));

Create table **GamePlayed**

(CustomerID int (11) not null,
GameID int (11) not null,
FirstPlayedDate date not null,
CONSTRAINT gameplayed_pk PRIMARY KEY (CustomerID, GameID),
CONSTRAINT gameplayed_fk1 FOREIGN KEY (CustomerID) REFERENCES SignUp
(CustomerID)
ON UPDATE CASCADE ON DELETE CASCADE,
CONSTRAINT gameplayed_fk2 FOREIGN KEY (GameID) REFERENCES Games (GameID)
ON UPDATE CASCADE ON DELETE CASCADE);

Create table **Payment**

(SubscriptionID int (11) not null,
CustomerID int (11) not null,
PaymentType varchar (30) not null,
CardNo int (16) not null,

CVV int (4) not null,
CardHolderName varchar (30) not null,
ExpiryDate date not null,
CONSTRAINT payment_pk PRIMARY KEY (CustomerID, SubscriptionID),
CONSTRAINT payment_fk1 FOREIGN KEY (CustomerID) REFERENCES SignUp
(CustomerID)
ON UPDATE CASCADE ON DELETE CASCADE,
CONSTRAINT payment_fk2 FOREIGN KEY (SubscriptionID) REFERENCES Subscription
(SubscriptionID)
ON UPDATE CASCADE ON DELETE CASCADE);

Create table **Login**

(SessionID int (11) not null auto_increment,
LoginTime date not null,
LogoutTime date not null,
LoginDeviceType varchar (30) not null,
CustomerID int (11) not null,
CONSTRAINT login_pk PRIMARY KEY (SessionID),
constraint login_fk FOREIGN KEY(CustomerID) REFERENCES SignUp (CustomerID));

Create table **ProfileSelected**

(ProfileID int (11) not null auto_increment,
ProfileName varchar (30),
SessionID int (11) not null,
CONSTRAINT profile_pk PRIMARY KEY (ProfileID),
constraint profile_fk FOREIGN KEY(SessionID) REFERENCES Login (SessionID));

Create table **Content**

(ContentID int (11) not null auto_increment,
ContentTitle varchar (30) not null,
ContentGenre varchar (30),
ContentLanguage varchar (30) not null,
ContentReleaseDate date not null,
ContentRating float (5),
ContentType varchar (30) not null,
ProfileID int (11) not null,
CONSTRAINT content_pk PRIMARY KEY (ContentID),
constraint content_pk FOREIGN KEY(ProfileID) REFERENCES ProfileSelected
(ProfileID));

Create table **WatchlistData**

(WatchlistID int (11) not null,
ContentID int (11) not null,
AddedDate date not null,
CONSTRAINT watchlistdata_pk PRIMARY KEY (WatchlistID, ContentID),
CONSTRAINT watchlistdata_fk1 FOREIGN KEY (WatchlistID) REFERENCES Watchlist
(WatchlistID)
ON UPDATE CASCADE ON DELETE CASCADE,
CONSTRAINT watchlistdata_fk2 FOREIGN KEY (ContentID) REFERENCES Content
(ContentID)
ON UPDATE CASCADE ON DELETE CASCADE);

Create table **Movie**

(MContentID int (11) not null,
Director varchar (30),
CONSTRAINT movie_pk PRIMARY KEY (MContentID),
constraint movie_fk FOREIGN KEY(MContentID) REFERENCES Content (ContentID));

Create table **Series**

(SContentID int (11) not null,

Season int (3) not null,

Episode int (3) not null,

CONSTRAINT series_pk PRIMARY KEY (SContentID),

constraint series_fk FOREIGN KEY(SContentID) REFERENCES Content (ContentID));



Inserting Data

use Netflix;

INSERT INTO **GAMES** (GameID, GameGenre, GameTitle, GameReleaseDate) VALUES

(1,'Adventure','Stranger Things 1984','2019-01-01'),

(2,'cooking','Is it cake','2019-02-19'),

(3,'cooking','The great british bake off','2020-12-01'),

(4,'Thriller','Stranger Things: Puzzle Tales','2021-12-07'),

(5,'puzzle','Stranger Things: Puzzle Tales','2020-10-09'),

(6,'simulation','Flutter Butterflies','2019-11-07'),

(7,'simulation','Skies of Chaos','2019-07-07'),

(8,'cooking','Nailed It! Baking Bash','2022-08-06'),

(9,'Simulation','Spiritfarer','2022-11-07'),

(10,'Cooking','Spongebob: Squarepants Get Cooking!','2020-03-04'),

(11,'Card','Heads Up!','2020-06-07'),

(12,'Adventure','Before your eyes','2021-06-04'),

(13,'Card','Mahjong Solitaire','2020-02-04'),

(14,'Puzzle','Poinpy','2019-12-09'),

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(15,'Adventure','The Witcher','2022-11-09'),
(16,'Card','Card Blast','2019-10-12'),
(17,'Thriller','Into the breach','2019-10-11'),
(18,'Simulation','Skylines','2019-02-09'),
(19,'Cooking','Baking Master','2019-11-11'),
(20,'Adventure','Twelve Minutes','2019-12-11');
```

```
INSERT INTO Subscription (SubscriptionID, Price, NumberofDevices, Definition) VALUES
(235577, 225.32, 9, 'HD'),
(324881, 119.34, 1, 'FHD'),
(348382, 274.87, 8, 'HD'),
(277786, 40.11, 1, 'UHD'),
(422281, 286, 4, 'HD'),
(188483, 162.66, 8, 'UHD'),
(200725, 204.75, 7, 'HD'),
(306802, 136.28, 10, 'UHD'),
(363890, 317.32, 9, 'FHD'),
(290517, 298.64, 8, 'UHD'),
(416802, 315.28, 7, 'UHD'),
(352271, 171.17, 10, 'FHD'),
(220995, 167.36, 1, 'HD'),
(269656, 265.86, 12, 'UHD'),
(312247, 205.87, 9, 'HD'),
(336218, 175.92, 12, 'UHD'),
(298751, 213.65, 10, 'HD'),
(415052, 240.91, 1, 'FHD'),
```

(166806, 67.92, 13, 'UHD'),
(263504, 52.39, 4, 'HD');

INSERT INTO **WATCHLIST** (WatchlistID, NumberofTitles) VALUES

(18371, 23),
(45318, 21),
(36146, 30),
(20847, 36),
(40985, 27),
(25882, 34),
(29396, 39),
(33215, 97),
(29646, 45),
(38227, 35),
(38475, 56),
(20146, 12),
(37172, 20),
(39347, 14),
(26604, 84),
(24196, 15),
(30602, 24),
(28893, 18),
(32291, 30),
(35274, 27);

INSERT INTO **Signup** (CustomerID, MobileNumber, SignupDevice, PrimaryLanguage, SignupDate, FirstName, LastName, Country, SubscriptionID) VALUES

(101, 1234567890, 'Laptop', 'English', '2018-07-08', 'John', 'Doe', 'USA', 235577),
(102, 1454567890, 'Mobile', 'Spanish', '2017-03-11', 'Bill', 'Doll', 'Spain', 235577),
(103, 1134567890, 'TV', 'Hindi', '2016-03-11', 'Josh', 'Turban', 'India', 235577),
(104, 1832456789, 'TV', 'Telugu', '2020-03-11', 'Mary', 'Lee', 'USA', 324881),
(105, 1774567890, 'Laptop', 'English', '2010-12-10', 'Kenya', 'Sosa', 'India', 324881),
(106, 1444567890, 'TV', 'Spanish', '2019-12-10', 'Ricardo', 'Sultan', 'Spain', 352271),
(107, 1234544890, 'Mobile', 'English', '2017-11-08', 'May Millicent', 'Welch', 'USA', 352271),
(108, 1234567890, 'TV', 'Hindi', '2017-07-08', 'Jerica', 'Austin', 'USA', 352271),
(109, 1234567890, 'Laptop', 'English', '2022-10-08', 'Kenia', 'Bishop', 'USA', 269656),
(110, 1234567890, 'Mobile', 'Hindi', '2016-07-08', 'Tamesha', 'Cardenas', 'USA', 269656),
(111, 1234567890, 'Laptop', 'Spanish', '2017-11-08', 'Talia', 'Montalvo Palafox', 'Spain', 415052),
(112, 1234777890, 'Mobile', 'Hindi', '2018-07-08', 'Steven', 'Nava', 'India', 415052),
(113, 1934567890, 'TV', 'English', '2019-07-08', 'Erick', 'Bernardo-Martinez', 'USA', 263504),
(114, 1234567845, 'Laptop', 'English', '2021-07-08', 'Stephanie', 'Owens', 'USA', 263504),
(115, 1234567890, 'Mobile', 'Hindi', '2018-07-08', 'Shianna', 'Orozco', 'USA', 269656),
(116, 1334567890, 'Laptop', 'English', '2012-11-08', 'Spozhmey', 'Andrade', 'USA', 269656),
(117, 1234567890, 'TV', 'Hindi', '2016-11-07', 'Nidia', 'Fischer', 'USA', 269656),
(118, 1234567890, 'Mobile', 'English', '2022-09-29', 'Samantha', 'Hasnain Khan', 'India', 352271),
(119, 1234567890, 'TV', 'English', '2021-12-28', 'Kate', 'Smith', 'India', 352271),
(120, 1234567890, 'Mobile', 'English', '2019-07-08', 'Andrea', 'Edwards', 'India', 352271);

INSERT INTO **GAMEPLAYED** (CustomerID, GameID, FirstPlayedDate) VALUES

(101, 1, '2021-07-08'),

(102, 1, '2019-03-11'),
(103, 2, '2019-03-11'),
(104, 3, '2021-03-11'),
(105, 5, '2021-12-10'),
(106, 10, '2021-12-10'),
(107, 5, '2022-11-08'),
(108, 6, '2021-07-08'),
(109, 13, '2022-11-08'),
(110, 12, '2021-07-08'),
(111, 16, '2022-11-08'),
(112, 4, '2022-07-08'),
(113, 12, '2021-07-08'),
(114, 3, '2021-07-08'),
(115, 2, '2021-07-08'),
(116, 20, '2022-11-08'),
(117, 8, '2022-11-07'),
(118, 8, '2022-09-29'),
(119, 9, '2022-12-28'),
(120, 10, '2021-07-08');

INSERT INTO **PAYMENT** (SubscriptionID, CustomerID, PaymentType, CardNo, CVV, CardHolderName, ExpiryDate) VALUES

(235577, 101, 'Credit', 123456789, 208, 'John Doe', '2027-07-08'),
(235577, 102, 'Credit', 567897865, 809, 'Bill Doll', '2025-03-11'),
(235577, 103, 'Debit', 123456789, 457, 'Josh Turban', '2026-03-11'),
(324881, 104, 'Debit', 56789786, 754, 'Mary Lee', '2028-03-11'),
(324881, 105, 'Debit', 12345678, 432, 'Kenya Sosa', '2027-12-10'),

(352271, 106, 'Credit', 78987472, 567, 'Ricardo Sultan', '2023-12-10'),
 (352271, 107, 'Credit', 56789786, 542, 'May Millicent Welch', '2029-11-08'),
 (352271, 108, 'Debit', 78987472, 246, 'Jerica Austin', '2027-07-08'),
 (269656, 109, 'Debit', 12345678, 346, 'Kenia Bishop', '2026-10-08'),
 (269656, 110, 'Credit', 78987472, 450, 'Tamesha Cardenas', '2024-07-08'),
 (415052, 111, 'Debit', 12345678, 421, 'Talia Montalvo Palafox', '2024-11-08'),
 (415052, 112, 'Credit', 56789786, 532, 'Steven Nava', '2026-07-08'),
 (263504, 113, 'Debit', 78987472, 246, 'Erick Bernardo-Martinez', '2026-07-08'),
 (263504, 114, 'Credit', 12345678, 753, 'Stephanie Owens', '2024-07-08'),
 (269656, 115, 'Debit', 78987472, 344, 'Shianna Orozco', '2025-07-08'),
 (269656, 116, 'Debit', 12345678, 234, 'Spozhmey Andrade', '2024-11-08'),
 (269656, 117, 'Credit', 56789786, 234, 'Nidia Fischer ', '2026-11-07'),
 (352271, 118, 'Credit', 78987472, 121, 'Samantha Hasnain Khan', '2022-09-29'),
 (352271, 119, 'Credit', 32636363, 111, 'Kate Smith', '2026-12-28'),
 (352271, 120, 'Debit', 26897645, 134, 'Andrea Edwards', '2027-07-08');

INSERT INTO **Login** (SessionID, LoginTime, LogoutTime, LoginDeviceType, CustomerID
) VALUES

(11001, '2020-09-21', '2020-10-11', 'Mobile', 101),
 (11002, '2018-10-11', '2020-11-07', 'Mobile', 102),
 (11003, '2020-11-07', '2021-11-09', 'TV', 103),
 (11004, '2019-04-09', '2021-05-03', 'Laptop', 104),
 (11005, '2021-04-03', '2021-05-29', 'Laptop', 105),
 (11006, '2021-03-29', '2021-04-08', 'Laptop', 106),
 (11007, '2019-04-08', '2020-08-29', 'Laptop', 107),
 (11008, '2020-08-29', '2020-09-20', 'Laptop', 108),
 (11009, '2018-06-20', '2018-07-01', 'Mobile', 109),

(11010, '2017-07-01', '2021-02-03', 'Mobile', 110),
(11011, '2021-02-03', '2022-06-25', 'Mobile', 111),
(11012, '2019-06-25', '2020-03-08', 'Mobile', 112),
(11013, '2017-03-08', '2021-09-19', 'TV', 113),
(11014, '2021-09-19', '2021-10-22', 'TV', 114),
(11015, '2020-05-22', '2020-10-16', 'TV', 115),
(11016, '2019-10-16', '2019-10-24', 'Mobile', 116),
(11017, '2017-10-04', '2021-06-29', 'Laptop', 117),
(11018, '2019-01-04', '2021-11-23', 'Mobile', 118),
(11019, '2021-06-29', '2021-07-04', 'Mobile', 119),
(11020, '2021-11-23', '2021-12-09', 'TV', 120);

INSERT INTO **PROFILESELECTED** (ProfileID, ProfileName, SessionID) VALUES

(1000001, 'Kenya', 11001),
(1000002, 'Bill', 11002),
(1000003, 'Josh', 11003),
(1000004, 'kids', 11004),
(1000005, 'Ricardo', 11005),
(1000006, 'Jerica', 11006),
(1000007, 'Talia', 11007),
(1000008, 'kids', 11008),
(1000009, 'Shianna', 11009),
(1000010, 'Tamesha', 11010),
(1000011, 'Andrea', 11011),
(1000012, 'Samantha', 11012),
(1000013, 'kids', 11013),

(1000014, 'Erick', 11014),
(1000015, 'Stephanie', 11015),
(1000016, 'Nidia', 11016),
(1000017, 'Kate', 11017),
(1000018, 'Andrea', 11018),
(1000019, 'John', 11019),
(1000020, 'Kenia', 11020);

INSERT INTO **CONTENT** (ContentID, ContentTitle, ContentGenre, ContentLanguage, ContentReleaseDate, ContentRating, ContentType, ProfileID) VALUES

(6716, 'Vikram', 'Thriller', 'English', '2017-01-08', 7.3, 'Movie', 1000001),
(6717, 'Dark', 'Action', 'English', '2019-09-05', 9.1, 'Series', 1000002),
(6718, 'Bad boys', 'Romance', 'English', '2016-09-18', 7.3, 'Movie', 1000003),
(6719, 'The 100', 'Scifi', 'English', '2020-09-06', 6.5, 'Series', 1000004),
(6720, 'Ghost', 'Crime', 'English', '2021-08-11', 6.9, 'Movie', 1000005),
(6721, 'Money Heist', 'Children & Family', 'Korean', '2013-06-13', 5.7, 'Series', 1000006),
(6722, 'Zombies', 'Horror', 'Korean', '2017-01-08', 8.4, 'Series', 1000007),
(6723, 'Fast and Furious', 'Crime', 'English', '2015-09-17', 7.3, 'Movie', 1000008),
(6724, 'RRR', 'Children & Family', 'English', '2010-07-17', 8.9, 'Movie', 1000009),
(6725, 'What If?', 'Thriller', 'English', '2022-09-09', 8.5, 'Movie', 1000010),
(6726, 'Brooklyn 99', 'Dramas', 'English', '2009-10-14', 7.3, 'Series', 1000011),
(6727, 'Squid Games', 'Horror', 'English', '2017-01-08', 7.8, 'Movie', 1000012),
(6728, '1948', 'Dramas', 'German', '2008-09-12', 8.3, 'Series', 1000013),
(6729, 'Asuran', 'Children & Family', 'English', '2008-12-12', 8.3, 'Series', 1000014),
(6730, 'Kala Chashma', 'Thriller', 'German', '2009-07-19', 6.9, 'Movie', 1000015),
(6731, 'Independence Day', 'Dramas', 'English', '2019-08-10', 7.4, 'Movie', 1000016),
(6732, 'Orphan', 'Horror', 'English', '2019-02-04', 9.2, 'Movie', 1000017),

(6733, 'Breaking Bad', 'Thriller', 'English', '2017-01-08', 8.9, 'Series', 1000018),
 (6734, 'Friends', 'Children & Family', 'English', '2017-09-23', 8.5, 'Movie', 1000019),
 (6735, 'Breathe', 'Thriller', 'English', '2021-12-10', 7.9, 'Movie', 1000020),
 (6736, 'Bakers Dozen', 'Thriller', 'English', '2021-12-11', 7.9, 'Series', 1000006),
 (6737, 'Godfather of Harlem', 'Thriller', 'English', '2021-12-12', 7.9, 'Series', 1000007),
 (6738, 'Pen-15', 'Action', 'English', '2021-12-13', 7.9, 'Series', 1000008),
 (6739, 'Power', 'Action', 'English', '2021-12-14', 7.9, 'Series', 1000009),
 (6740, 'Wednesday', 'Children & Family', 'English', '2021-12-15', 7.9, 'Series', 1000010),
 (6741, 'Warrior Nun', 'Horror', 'English', '2021-12-16', 7.9, 'Series', 1000011),
 (6742, 'Inside Man', 'Children & Family', 'English', '2021-12-17', 7.9, 'Series', 1000012),
 (6743, 'The Watcher', 'Thriller', 'English', '2021-12-18', 7.9, 'Series', 1000010),
 (6744, 'Game of Thrones', 'Action', 'English', '2021-12-19', 7.9, 'Series', 1000011),
 (6745, 'Down town abby', 'Dramas', 'English', '2021-12-20', 7.9, 'Series', 1000012),
 (6746, 'Sabrina', 'Horror', 'English', '2021-12-21', 7.9, 'Series', 1000013),
 (6747, 'Whats Wrong with her', 'Romance', 'English', '2021-12-22', 7.9, 'Series', 1000014),
 (6748, 'the pursuit of happyness', 'Dramas', 'English', '2017-08-25', 8.1, 'Movie', 1000015),
 (6749, 'Beauty and the beast', 'Musical', 'English', '2020-03-21', 8.4, 'Movie', 1000016),
 (6750, 'The greatest showman', 'Musical', 'English', '2018-05-18', 8.1, 'Movie', 1000017),
 (6751, '17 Again', 'Comedy', 'English', '2019-02-12', 7.9, 'Movie', 1000018),
 (6752, 'wonder', 'Children & Family', 'English', '2017-05-18', 9.2, 'Movie', 1000019),
 (6753, 'Easy A', 'Comedy', 'English', '2016-09-17', 8.6, 'Movie', 1000010),
 (6754, 'LaLaLand', 'Musical', 'English', '2018-08-08', 8.8, 'Movie', 1000011),
 (6755, 'The Shawshank Redemption', 'Dramas', 'English', '2008-03-29', 9.3, 'Movie', 1000012),
 (6756, '21', 'Dramas', 'English', '2018-06-17', 7.4, 'Movie', 1000013);

INSERT INTO **WATCHLISTDATA** (WatchlistID, ContentID, AddedDate) VALUES

(18371, 6716, '2016-10-11'),
(45318, 6717, '2016-09-21'),
(36146, 6718, '2016-10-01'),
(20847, 6719, '2015-01-11'),
(40985, 6720, '2016-02-11'),
(25882, 6721, '2016-03-11'),
(29396, 6722, '2016-04-21'),
(33215, 6723, '2016-05-13'),
(29646, 6724, '2016-05-14'),
(38227, 6725, '2016-02-06'),
(38475, 6726, '2016-01-09'),
(20146, 6727, '2016-04-17'),
(37172, 6728, '2013-10-11'),
(39347, 6729, '2014-01-21'),
(26604, 6730, '2015-10-11'),
(24196, 6731, '2015-10-11'),
(30602, 6732, '2016-08-11'),
(28893, 6733, '2016-08-09'),
(32291, 6734, '2016-01-01'),
(35274, 6735, '2015-01-01');

INSERT INTO **MOVIE** (MContentID, Director) VALUES

(6716, 'David fincher'),
(6718, 'Stephen Chobsky'),
(6720, 'Quentin tarantino'),
(6723, 'james cameron'),
(6724, 'angelina jolie'),

(6725, 'olivia wilde'),
(6727, 'christopher nolan'),
(6730, 'christopher mccarry'),
(6731, 'michael gracey'),
(6732, 'james mangold'),
(6734, 'steven spielberg'),
(6735, 'martin scorsese'),
(6748, 'stanley kubrick'),
(6749, 'spike lee'),
(6750, 'ridley scott'),
(6751, 'ang lee'),
(6752, 'woody allen'),
(6753, 'steven soderbergh'),
(6754, 'peter jackson'),
(6755, 'greta gerwig');

INSERT INTO **SERIES** (SContentID, Season, Episode) VALUES

(6717, 4, 12),
(6719, 5, 16),
(6721, 5, 8),
(6722, 6, 14),
(6726, 7, 17),
(6728, 7, 13),
(6729, 2, 19),
(6733, 3, 6),
(6736, 2, 7),
(6737, 3, 13),

(6738, 6, 15),
 (6739, 4, 14),
 (6740, 5, 15),
 (6741, 6, 16),
 (6742, 3, 18),
 (6743, 5, 10),
 (6744, 2, 12),
 (6745, 6, 14),
 (6746, 3, 15),
 (6747, 6, 18);



SQL Queries

use Netflix;

1. Simple Query: List Customers from USA

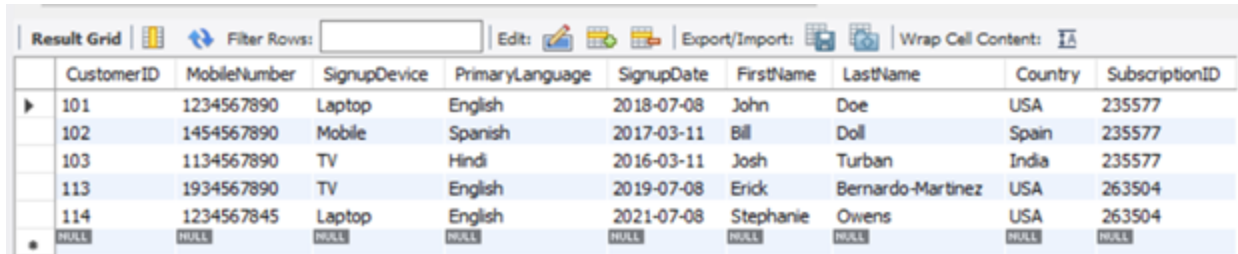
select * from Signup where Country='USA';

Result Grid									
Filter Rows:		Edit:		Export/Import:		Wrap Cell Content:			
	CustomerID	MobileNumber	SignupDevice	PrimaryLanguage	SignupDate	FirstName	LastName	Country	SubscriptionID
▶	101	1234567890	Laptop	English	2018-07-08	John	Doe	USA	235577
	104	1832456789	TV	Telugu	2020-03-11	Mary	Lee	USA	324881
	107	1234544890	Mobile	English	2017-11-08	May Millicent	Welch	USA	352271
	108	1234567890	TV	Hindi	2017-07-08	Jerica	Austin	USA	352271
	109	1234567890	Laptop	English	2022-10-08	Kenia	Bishop	USA	269656
	110	1234567890	Mobile	Hindi	2016-07-08	Tamesha	Cardenas	USA	269656
	113	1934567890	TV	English	2019-07-08	Erick	Bernardo-Martinez	USA	263504
	114	1234567845	Laptop	English	2021-07-08	Stephanie	Owens	USA	263504
	115	1234567890	Mobile	Hindi	2018-07-08	Shianna	Orozco	USA	269656
	116	1334567890	Laptop	English	2012-11-08	Spozhmey	Andrade	USA	269656
	117	1234567890	TV	Hindi	2016-11-07	Nidia	Fischer	USA	269656
•	118	1234567890	Mobile	Hindi	2016-11-07	Nidia	Fischer	USA	269656

Signup 18 x

2. Sub Query: List Customers who have Subscription plan as HD.

select * from Signup where SubscriptionID in (select SubscriptionId from subscription where Definition='HD');



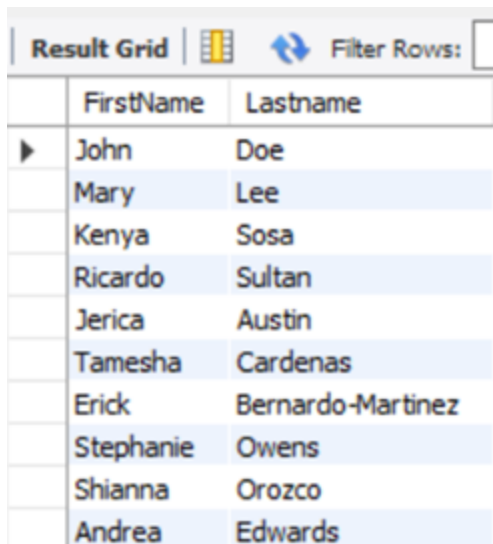
The screenshot shows a database result grid with the following columns: CustomerID, MobileNumber, SignupDevice, PrimaryLanguage, SignupDate, FirstName, LastName, Country, and SubscriptionID. The data is as follows:

CustomerID	MobileNumber	SignupDevice	PrimaryLanguage	SignupDate	FirstName	LastName	Country	SubscriptionID
101	1234567890	Laptop	English	2018-07-08	John	Doe	USA	235577
102	1454567890	Mobile	Spanish	2017-03-11	Bill	Doll	Spain	235577
103	1134567890	TV	Hindi	2016-03-11	Josh	Turban	India	235577
113	1934567890	TV	English	2019-07-08	Erick	Bernardo-Martinez	USA	263504
114	1234567845	Laptop	English	2021-07-08	Stephanie	Owens	USA	263504
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

3. JOINS:

a. Left Join: List all player's names who have played between 1st Jan 2021 and 1st Jan 2022.

select Signup.FirstName, Signup.Lastname from Signup
left join GamePlayed
on Signup.CustomerID = Gameplayed.CustomerID
where Gameplayed.FirstPlayedDate > '2021-01-01' and
Gameplayed.FirstPlayedDate < '2022-01-01';



The screenshot shows a database result grid with the following columns: FirstName and Lastname. The data is as follows:

FirstName	Lastname
John	Doe
Mary	Lee
Kenya	Sosa
Ricardo	Sultan
Jerica	Austin
Tamesha	Cardenas
Erick	Bernardo-Martinez
Stephanie	Owens
Shianna	Orozco
Andrea	Edwards

b. Inner join: List all the customers who pay more than 200 for subscription.

```

SELECT signup.subscriptionID, signup.CustomerID, Signup.FirstName,
Signup.LastName
FROM Signup
INNER JOIN subscription ON
signup.SubscriptionID= subscription.SubscriptionId
where subscription.Price>'200' ;

```

subscriptionID	CustomerID	FirstName	LastName
235577	101	John	Doe
235577	102	Bill	Doll
235577	103	Josh	Turban
269656	109	Kenia	Bishop
269656	110	Tamesha	Cardenas
269656	115	Shianna	Orozco
269656	116	Spozimey	Andrade
269656	117	Nidia	Fischer
415052	111	Talia	Montalvo Palafox
415052	112	Steven	Nava

c. Left Join: What is the average price of all the subscriptions the users have chosen who signed up in USA?

```

select avg(Subscription.price) from Subscription
left join signup
on subscription.subscriptionID = signup.subscriptionID
where signup.country ='USA';

```

Result Grid		Filter
	avg(Subscription.price)	
▶	192.82544777610084	

d. Right Join: Name the directors of the movies with rating above 8.

```

select Movie.director from content right join movie
on content.ContentID = movie.MContentID
where content.ContentType = 'Movie' and content.contentrating>8;

```

Result Grid	
	director
▶	angelina jolie
	olivia wilde
	james mangold
	steven spielberg
	stanley kubrick
	spike lee
	ridley scott
	woody allen
	steven soderbergh
	peter jackson
	greta gerwig

4. Views:

- a. View 1: Using the view, find out average rating for english language series create view SeriesSeasons as

```
select content.contentrating, content.contentlanguage from content left join series
on content.ContentID = series.SContentID
where content.ContentType = 'Series';
```

```
select avg(contentrating) from SeriesSeasons where contentlanguage = 'English';
```

Result Grid	
	avg(contentrating)
▶	7.935294207404642

- b. View 2: Using the view, find the list of titles which were added to watchlist after 1st Jan 2016

create view watchlistmovies as

```
select content.contenttitle, watchlistdata.addeddate from content left join
watchlistdata
on content.contentid = watchlistdata.contentid;
```

```
select contenttitle from watchlistmovies where addeddate >'2016-01-01';
```

Result Grid	
	contenttitle
▶	Vikram
	Squid Games
	Money Heist
	Breaking Bad
	Zombies
	RRR
	Orphan
	Fast and Furious
	Bad boys
	What If?
	Brooklyn 99
	Ghost
	Dark

5. Stored Procedure

a. Stored Procedure 1- get genre of the game based on the title

Using the above stored procedure, find out the genre of the game called Spiritfarer

```
DELIMITER //
CREATE PROCEDURE GetGameGenrebyTitle(IN Gamename varchar(50))
BEGIN
select GameGenre from Games
Where gametitle =Gamename ; END //
DELIMITER ;
```

```
call getgamegenrebytitle('Spiritfarer');
```

Result Grid	
	GameGenre
▶	Simulation

b. Stored Procedure 2 get average rating of the content based on language
Using the above stored procedure, findout the average rating for all English
Content

```
DELIMITER //
CREATE PROCEDURE GetavgRatingByLanguage(IN lang varchar(30))
BEGIN
select avg(contentrating) from content
Where contentlanguage =lang ; END //
DELIMITER ;
```

call GetavgRatingByLanguage('English');

Result Grid		Filter Rows:
	avg(contentrating)	
▶	8.045946031003385	