

3 and 4.

underline is primary key and bold would be foreign key

trivial functional dependencies are ignored

1. Ranking (RankingName: char(20), RankingID: int)

FD: RankingID -> RankingName

2. Movie (MovieID: int, Length: int, Title: char(20), Year: int, Category: char(20), Country: char(20), Rating: int, #ofUpvotes: int, #ofWatchings: int, #ofComments: int, **CompanyID**: int, Language: char(20))
#Upvotes, #Watchings, #Comments DEFAULT 0
Length, Title, Year, Category, Country, Rating, Language NOT NULL

FD:

MovieID -> Length, Title, Year, Category, Country, #ofUpvotes, #Watching, #ofComments, CompanyID, Rating, Language

Country -> Language

Title, Year -> CompanyID

3. RMContain (**RankingID**: int, **MovieID**: int)

4. MovieCompany (Name: char(20), CompanyID: int)

Name NOT NULL, Name UNIQUE

FD: CompanyID -> Name

5. User (Name: char(20), AccountNumber: int, Password: char(20)) Name UNIQUE

FD: AccountNumber -> Name, Password

6. Watch (**MovieID**: int, **AccountNumber**: int, Date: date)

FD: MovieID, AccountNumber -> Date

7. HistoryList (ListID: int, **AccountNumber**: int)

8. FavouriteList (ListID: int, **AccountNumber**: int)

9. MMContain (**MovieID**: int, **ListID**: int, **AccountNumber**: int)

10. RReview (#ofLike: int, #ofDislike: int, Content: char(500), Date: date, Rating: int, ReviewID: int, **MovieID**: int, **AccountNumber**: int)

Content NOT NULL, #ofLike DEFAULT 0, #ofDislike DEFAULT 0

FD: ReviewID -> #ofLike, #ofDislike, Content, Date, Rating, MovieID, AccountNumber

11. CComment (#ofLike: int, #ofDislike: int, Content: char(500), Date: date, CommentID: int, **ReviewID**: int, **AccountNumber**: int)

Content NOT NULL, #ofLike DEFAULT 0, #ofDislike DEFAULT 0

FD: CommentID -> #ofLike, #ofDislike, Content, Date, ReviewID, AccountNumber

12. DiscussionGroup (GroupID: int, GroupName: char(20)) GroupName NOT NULL

FD: GroupID -> GroupName

13. DiscussionContent (ContentID: int, **GroupID**: int, **AccountNumber**: int, Content: char(500),

Date: date)
Content NOT NULL
FD: ContentID, GroupID, AccountNumber -> Content, Date

5.

Ranking (RankingName, RankingID)

Movie₁ (Language, Country)

Movie₂ (Title, Year, **CompanyID**)

Movie₃ (**Title**, Year, MovieID, Length, Category, **Country**, Rating, #ofUpvotes, #Watching, #ofComments)

RMContain (**RankingID**, **MovieID**)

MovieCompany (Name, CompanyID)

User (AccountNumber, Name, Password)

Watch (**MovieID**, **AccountNumber**, Date)

HistoryList (ListID, **AccountNumber**)

FavouriteList (ListID, **AccountNumber**)

MMContain (**MovieID**, **ListID**, **AccountNumber**)

RReview (#Like, #ofDislike, Content, Date, Rating, ReviewID, **MovieID**, **AccountNumber**)

CComment (#Like, #ofDisLike, Content, Date, CommentID, **ReviewID**, **AccountNumber**)

DiscussionGroup (GroupID, GroupName)

DiscussionContent (ContentID, **GroupID**, **AccountNumber**, Content, Date)

6.

```
CREATE TABLE Ranking(  
    RankingName CHAR(20) PRIMARY KEY,  
    RankingID INT  
);  
  
CREATE TABLE Movie1(  
    Language CHAR(20) NOT NULL,  
    Country CHAR(20) PRIMARY KEY  
);  
  
CREATE TABLE Movie2(  
    Title CHAR(20) NOT NULL,  
    Year INT NOT NULL,  
    CompanyID INT,  
    PRIMARY KEY (Title, Year),  
    FOREIGN KEY (CompanyID) REFERENCES MovieCompany(CompanyID)  
        ON DELETE CASCADE  
);  
  
CREATE TABLE Movie3(  
    MovieID INT PRIMARY KEY,  
    Title CHAR(20) NOT NULL,  
    Year INT NOT NULL,  
    Length INT NOT NULL,  
    Category CHAR(20) NOT NULL,  
    Country CHAR(20) NOT NULL,  
    Rating INT NOT NULL,  
    #ofUpvotes INT SET DEFAULT 0,  
    #ofWatchings INT SET DEFAULT 0,  
    #ofComments INT SET DEFAULT 0,  
    FOREIGN KEY (Title, Year) REFERENCES Movie2(Title, Year),  
    FOREIGN KEY (Country) REFERENCES Movie1(Country)  
        ON DELETE CASCADE  
        ON UPDATE CASCADE  
);  
  
CREATE TABLE RMContain(  
    RankingID INT,  
    MovieID INT,  
    PRIMARY KEY (RankingID, MovieID),  
    FOREIGN KEY (RankingID) REFERENCES Ranking(RankingID),  
    FOREIGN KEY (MovieID) REFERENCES Movie3(MovieID)  
        ON DELETE CASCADE  
);  
  
CREATE TABLE MovieCompany(  
    Name CHAR(20),  
    CompanyID INT PRIMARY KEY  
);
```

```

CREATE TABLE User(
    AccountNumber INT PRIMARY KEY,
    Name CHAR(20) ,
    Password CHAR(20)
    UNIQUE Name
);

CREATE TABLE Watch(
    MovieID INT,
    AccountNumber INT,
    Date DATE,
    PRIMARY KEY (MovieID, AccountNumber)
);

CREATE TABLE HistoryList(
    ListID INT,
    AccountNumber INT,
    PRIMARY KEY (ListID, AccountNumber),
    FOREIGN KEY (AccountNumber) REFERENCES User(AccountNumber)
);

CREATE TABLE FavouriteList(
    ListID INT,
    AccountNumber INT,
    PRIMARY KEY (ListID, AccountNumber),
    FOREIGN KEY (AccountNumber) REFERENCES User(AccountNumber)
);

CREATE TABLE MMContain(
    MovieID INT,
    ListID INT,
    AccountNumber INT,
    PRIMARY KEY (MovieID, ListID, AccountNumber),
    FOREIGN KEY (AccountNumber) REFERENCES User(AccountNumber),
    FOREIGN KEY (MovieID) REFERENCES Movie3 (MovieID),
    FOREIGN KEY (ListID)
        REFERENCES HistoryList(ListID), FavouriteList(ListID)
);

CREATE TABLE RReview(
    #Like INT SET DEFAULT 0,
    #Dislike INT SET DEFAULT 0,
    Content CHAR(500) NOT NULL,
    Date DATE,
    Rating INT,
    ReviewID INT PRIMARY KEY,
    MovieID INT,
    AccountNumber INT,
    FOREIGN KEY (AccountNumber) REFERENCES User(AccountNumber),

```

```
FOREIGN KEY (MovieID) REFERENCES Movie3 (MovieID)  
);
```

7.

```
INSERT INTO Ranking VALUES ('Latest', 1);
INSERT INTO Ranking VALUES ('Highest Rating', 2);
INSERT INTO Ranking VALUES ('Most Watching', 3);
INSERT INTO Ranking VALUES ('Most Upvotes', 4);
INSERT INTO Ranking VALUES ('Most Comments', 5);
```

Ranking

RankingName	<u>RankingID</u>
Latest	1
Highest Rating	2
Most Watching	3
Most Upvotes	4
Most Comments	5

```
INSERT INTO Movie1 VALUES ('English', 'Canada');
INSERT INTO Movie1 VALUES ('English', 'USA');
INSERT INTO Movie1 VALUES ('Mandarin', 'China');
```

Movie1

Language	<u>Country</u>
English	Canada
English	USA
Mandarin	China

```

INSERT INTO Movie2 VALUES ('Monster Hunter', 2020, 10000);
INSERT INTO Movie2 VALUES ('Greenland', 2020, 20000);
INSERT INTO Movie2 VALUES ('The Little Things', 2021, 30000);
INSERT INTO Movie2 VALUES ('Endgame', 2021, 40000);
INSERT INTO Movie2 VALUES ('The Yinyang Master', 2021 50000);

```

Movie2

Title	Year	CompanyID
Monster Hunter	2020	10000
Greenland	2020	20000
The Little Things	2021	30000
Endgame	2021	40000
The Yinyang Master	2021	50000

```

INSERT INTO Movie3
VALUES ('Monster Hunter', 2020, 1, 104, 'Fantasy', 'Canada', 0, 0, 0, 0);
INSERT INTO Movie3
VALUES ('Greenland', 2020, 2, 119 'Disaster', 'USA', 0, 0, 0, 0);
INSERT INTO Movie3
VALUES ('The Little Things', 2021, 3, 128, 'Crime', 'USA', 0, 0, 0, 0);
INSERT INTO Movie3
VALUES ('Endgame', 2021, 4, 119, 'Crime', 'China', 0, 0, 0, 0);
INSERT INTO Movie3
VALUES ('The Yinyang Master', 2021, 5, 120 'Fantasy', 'China', 0, 0, 0, 0);

```

Movie3

Title	Year	MovieID	Length	Category	Country	Rating	#ofUp votes	#ofWatchings	#ofComments
Monster Hunter	2020	1	104	Fantasy	Canada	0	0	0	0
Greenland	2020	2	119	Disaster	USA	0	0	0	0
The Little Things	2021	3	128	Crime	USA	0	0	0	0
Endgame	2021	4	119	Crime	China	0	0	0	0
The Yinyang Master	2021	5	120	Fantasy	China	0	0	0	0

```

INSERT INTO RMContain VALUES (1, 1);
INSERT INTO RMContain VALUES (1, 3);
INSERT INTO RMContain VALUES (1, 4);
INSERT INTO RMContain VALUES (2, 2);
INSERT INTO RMContain VALUES (2, 4);
INSERT INTO RMContain VALUES (2, 5);
INSERT INTO RMContain VALUES (3, 1);
INSERT INTO RMContain VALUES (3, 2);
INSERT INTO RMContain VALUES (3, 3);
INSERT INTO RMContain VALUES (4, 3);
INSERT INTO RMContain VALUES (4, 4);
INSERT INTO RMContain VALUES (4, 5);
INSERT INTO RMContain VALUES (5, 1);
INSERT INTO RMContain VALUES (5, 3);
INSERT INTO RMContain VALUES (5, 5);

```

RMContain

<u>RankingID</u>	<u>MovieID</u>
1	1
1	3
1	4
2	2
2	4
2	5
3	1
3	2
3	3
4	3
4	4
4	5
5	1
5	3
5	5


```

INSERT INTO MovieCompany VALUES ('Looking Glass Studios', 10000);
INSERT INTO MovieCompany VALUES ('Continuum Films', 20000);
INSERT INTO MovieCompany VALUES ('Off the Spectrum Productions', 30000);
INSERT INTO MovieCompany VALUES ('Pendulum Film Company', 40000);
INSERT INTO MovieCompany VALUES ('Sandstone Films', 50000);

```

MovieCompany

Name	CompanyID
Looking Glass Studios	10000
Continuum Films	20000
Off the Spectrum Productions	30000
Pendulum Film Company	40000
Sandstone Films	50000

```

INSERT INTO User VALUES (692630, 'ERburETE', 'Kc0I8iYM&2*xgw^s14Mn');
INSERT INTO User VALUES (469738, 'ndRIzErT', 'sb&YvvY*NvoeaBH70Ew1');
INSERT INTO User VALUES (279183, 'terThisk', 'QYXwgaT*NL&QYGmor@$@');
INSERT INTO User VALUES (628591, 'OMeragMa', 'gnEvZg^VBRrgupsfiF*L');
INSERT INTO User VALUES (904166, 'OMEISMic', '*XD*7E@Hx6ZJ#B28dZEt');

```

User

<u>AccountNumber</u>	Name	Password
692630	ERburETE	Kc0I8iYM&2*xgw^s14Mn
469738	ndRIzErT	sb&YvvY*NvoeaBH70Ew1
279183	terThisk	QYXwgaT*NL&QYGmor@\$@
628591	OMeragMa	gnEvZg^VBRrgupsfiF*L
904166	OMEISMic	*XD*7E@Hx6ZJ#B28dZEt

```

INSERT INTO Watch VALUES (1, 904166, '2021-4-14');
INSERT INTO Watch VALUES (1, 469738, '2021-4-16');
INSERT INTO Watch VALUES (1, 628591, '2021-4-28');
INSERT INTO Watch VALUES (1, 279183, '2021-5-11');
INSERT INTO Watch VALUES (2, 692630, '2021-6-10');
INSERT INTO Watch VALUES (2, 279183, '2021-6-20');
INSERT INTO Watch VALUES (2, 469738, '2021-7-19');
INSERT INTO Watch VALUES (3, 628591, '2021-7-21');
INSERT INTO Watch VALUES (4, 628591, '2021-7-22');
INSERT INTO Watch VALUES (4, 692630, '2021-10-1');
INSERT INTO Watch VALUES (5, 692630, '2021-10-3');
INSERT INTO Watch VALUES (5, 469738, '2021-10-27');
INSERT INTO Watch VALUES (5, 279183, '2021-10-30');
INSERT INTO Watch VALUES (5, 628591, '2021-11-8');

```

Watch

<u>MovieID</u>	<u>AccountNumber</u>	Date
1	904166	'2021-4-14'
1	469738	'2021-4-16'
1	628591	'2021-4-28'
1	279183	'2021-5-11'
2	692630	'2021-6-10'
2	279183	'2021-6-20'
2	469738	'2021-7-19'
3	628591	'2021-7-21'
4	628591	'2021-7-22'
4	692630	'2021-10-1'
5	692630	'2021-10-3'
5	469738	'2021-10-27'
5	279183	'2021-10-30'
5	628591	'2021-11-8'

```

INSERT INTO HistoryList VALUES (11, 692630);
INSERT INTO HistoryList VALUES (22, 469738);
INSERT INTO HistoryList VALUES (33, 279183);
INSERT INTO HistoryList VALUES (44, 628591);
INSERT INTO HistoryList VALUES (55, 904166);

```

HistoryList

ListID	AccountNumber
11	692630
22	469738
33	279183
44	628591
55	904166

```

INSERT INTO FavouriteList VALUES (111, 692630);
INSERT INTO FavouriteList VALUES (222, 469738);
INSERT INTO FavouriteList VALUES (333, 279183);
INSERT INTO FavouriteList VALUES (444, 628591);
INSERT INTO FavouriteList VALUES (555, 904166);

```

FavouriteList

ListID	AccountNumber
111	692630
222	469738
333	279183
444	628591
555	904166

```

INSERT INTO MMcontain VALUES (1, 11, 904166);
INSERT INTO MMcontain VALUES (3, 11, 904166);
INSERT INTO MMcontain VALUES (3, 111, 904166);
INSERT INTO MMcontain VALUES (4, 111, 904166);
INSERT INTO MMcontain VALUES (1, 22, 469738);
INSERT INTO MMcontain VALUES (2, 22, 469738);
INSERT INTO MMcontain VALUES (3, 22, 469738);
INSERT INTO MMcontain VALUES (4, 22, 469738);
INSERT INTO MMcontain VALUES (5, 22, 469738);
INSERT INTO MMcontain VALUES (4, 33, 279183);
INSERT INTO MMcontain VALUES (4, 333, 279183);
INSERT INTO MMcontain VALUES (1, 44, 628591);

```

MMContain

<u>MovieID</u>	<u>ListID</u>	<u>AccountNumber</u>
1	11	904166
3	11	904166
3	111	904166
4	111	904166
1	22	469738
2	22	469738
3	22	469738
4	22	469738
5	22	469738
4	33	279183
4	333	279183
1	44	628591

```

INSERT INTO RReview VALUES (0, 0, 'Good 0 ...', '2021-1-1', 8, 100, 1, 904166);
INSERT INTO RReview VALUES (0, 0, 'Good 1 ...', '2021-1-2', 9, 101, 1, 469738);
INSERT INTO RReview VALUES (0, 0, 'Bad 00 ...', '2021-1-1', 3, 102, 1, 628591);
INSERT INTO RReview VALUES (0, 0, 'Good 2 ...', '2021-1-4', 7, 103, 4, 279183);
INSERT INTO RReview VALUES (0, 0, 'Bad 01 ...', '2021-1-6', 4, 104, 3, 469738);

```

RReview

#Like	#DisLike	Content	Date	Rating	<u>ReviewID</u>	MovieID	AccountNumber
0	0	Good 0 ...	'2021-1-1'	8	100	1	904166
0	0	Good 1 ...	'2021-1-2'	9	101	1	469738
0	0	Bad 00 ...	'2021-1-1'	3	102	1	628591
0	0	Good 2 ...	'2021-1-4'	7	103	4	279183
0	0	Bad 01 ...	'2021-1-6'	4	104	3	469738

```

INSERT INTO CComment VALUES (0, 0, 'Agree 0', '2021-2-1', 1000, 100, 469738);
INSERT INTO CComment VALUES (0, 0, 'Agree 1', '2021-2-2', 1001, 100, 904166);
INSERT INTO CComment VALUES (0, 0, 'Nooooooo', '2021-2-1', 1002, 102, 692630);
INSERT INTO CComment VALUES (0, 0, 'ABCDEFGF', '2021-1-9', 1003, 103, 628591);
INSERT INTO CComment VALUES (0, 0, 'NOPEEEE', '2021-1-8', 1004, 103, 279183);

```

CComment

#Like	#DisLike	Content	Date	<u>CommentID</u>	ReviewID	AccountNumber
0	0	Agree 0	'2021-2-1'	1000	100	469738
0	0	Agree 1	'2021-2-2'	1001	100	904166
0	0	Nooooooo	'2021-2-1'	1002	102	692630
0	0	ABCDEFGF	'2021-1-9'	1003	103	628591
0	0	NOPEEEE	'2021-1-8'	1003	103	279183

```

INSERT INTO DiscussionGroup VALUES (1, 'Super Group 0');
INSERT INTO DiscussionGroup VALUES (2, 'Super Group 1');
INSERT INTO DiscussionGroup VALUES (3, 'Super Group 2');
INSERT INTO DiscussionGroup VALUES (4, 'Super Group 3');
INSERT INTO DiscussionGroup VALUES (5, 'Super Group 4');

```

DiscussionGroup

<u>GroupID</u>	GroupName
1	Super Group 0
2	Super Group 1
3	Super Group 2
4	Super Group 3
5	Super Group 4

```

INSERT INTO DiscussionContent
VALUES (5000, 1, 279183, 'I like this movie', '2021-2-2');
INSERT INTO DiscussionContent
VALUES (5001, 1, 904166, 'aaaaaaaa', '2021-2-2');
INSERT INTO DiscussionContent
VALUES (5002, 3, 279183, 'hhhhhhhhhhhh', '2021-1-30');
INSERT INTO DiscussionContent
VALUES (5003, 4, 692630, 'GOOD GOOD GOOD', '2021-2-5');
INSERT INTO DiscussionContent
VALUES (5004, 4, 692630, 'tgf34gt34wftgwr3t', '2021-2-8');

```

DiscussionContent

<u>ContentID</u>	<u>GroupID</u>	<u>AccountNumber</u>	Content	Date
5000	1	279183	I like this movie	'2021-2-2'
5001	1	904166	aaaaaaaa	'2021-2-2'
5002	3	279183	hhhhhhhhhhhh	'2021-1-30'
5003	4	692630	GOOD GOOD GOOD	'2021-2-5'
5004	4	692630	tgf34gt34wftgwr3t	'2021-2-8'

8.