



CS PROJECT DATABASE STEAM

STEAM

Christopher Nathanael X Matthew Ang

JC 1 Mendel X Forbes

TABLE OF CONTENTS

TABLE OF CONTENTS -----	1
DESCRIPTION OF THE COMPANY-----	2
METHODS CURRENTLY IN USE-----	2
UNNORMALIZED FORM (UNF)-----	5
FIRST NORMALIZED FORM (1NF)-----	7
SECOND NORMALIZED FORM (2NF)-----	11
THIRD NORMALIZED FORM (3NF)-----	15
ENTITY RELATIONSHIP (ER) DIAGRAM-----	17
DATA DICTIONARY-----	18
ACTUALIZATION-----	19
DATA INSERT-----	22
DATA MANIPULATION-----	26

Description of the Company

Found in September 11, 2003, Steam is a digital distribution platform developed by Valve Corporation for purchasing and playing video games. Steam offers digital rights management (DRM), matchmaking servers, video streaming, and social networking services. Steam provides the user with installation and automatic updating of games, and community features such as friends lists and groups, cloud saving, and in-game voice and chat functionality.

The Steam platform is the largest digital distribution platform for PC gaming, estimated in 2013 to have 75% of the market space. By 2017, users purchasing games through Steam totaled roughly US\$4.3 billion, representing at least 18% of global PC game sales. By early 2018, the service had over 150 million registered accounts with a peak of 18.5 million concurrent users online. The success of the Steam platform has led to the development of a line of Steam Machine microconsoles, which include the SteamOS operating system and Steam Controllers, and various virtual reality devices using SteamVR such as the HTC Vive.

Methods Currently in Use

An online database allows the user to view and purchase games from companies such as 2K, Ubisoft and Rockstar Games. In order to purchase a game from Steam, the user is required to log into their Steam account. For new users, they have to go to the website <https://store.steampowered.com/join/> where they can register for a Steam account. These are the forms the user has to fill in:

The screenshot shows the 'Create an Account' form on the Steam website. It includes fields for email address, country of residence, and a CAPTCHA challenge. The CAPTCHA text 'WEFTME@8' is displayed above a text input field where the user has typed 'Indonesia'. A note explains that the email is used for purchase confirmation and account management. Another note states that a confirmation email will be sent to the provided address, with instructions to verify it via a link. Below the CAPTCHA is a text input field labeled 'Enter the characters above' and a 'Refresh' button.

Your current email address

Re-enter email address

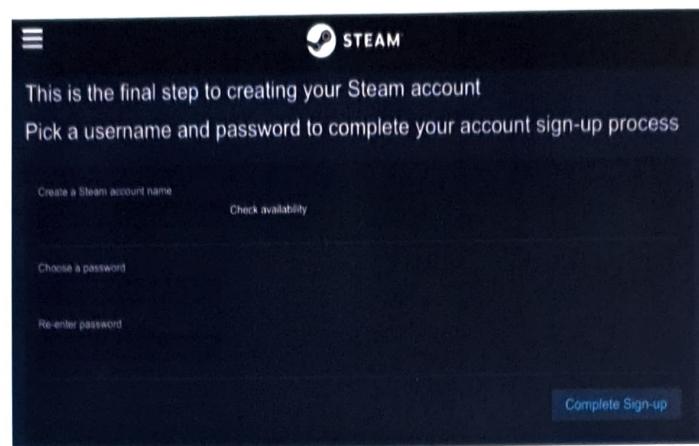
Your country of residence

Indonesia

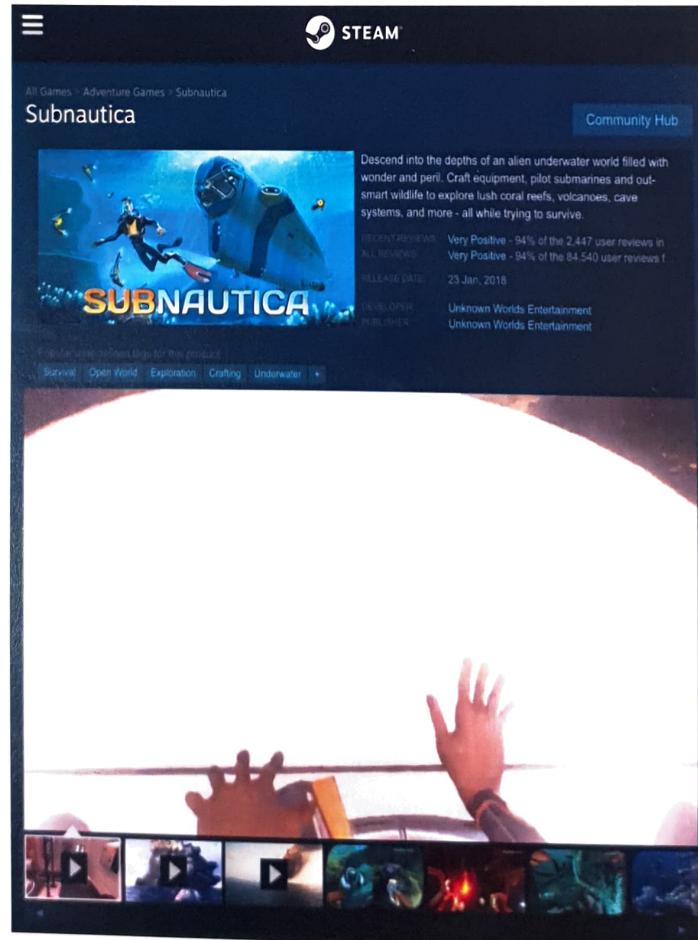
WEFTME@8

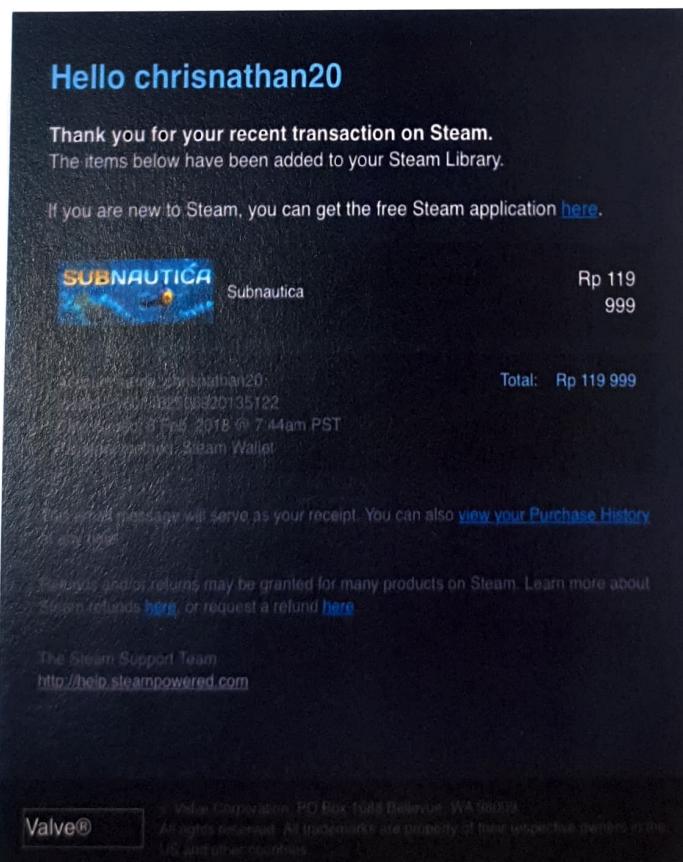
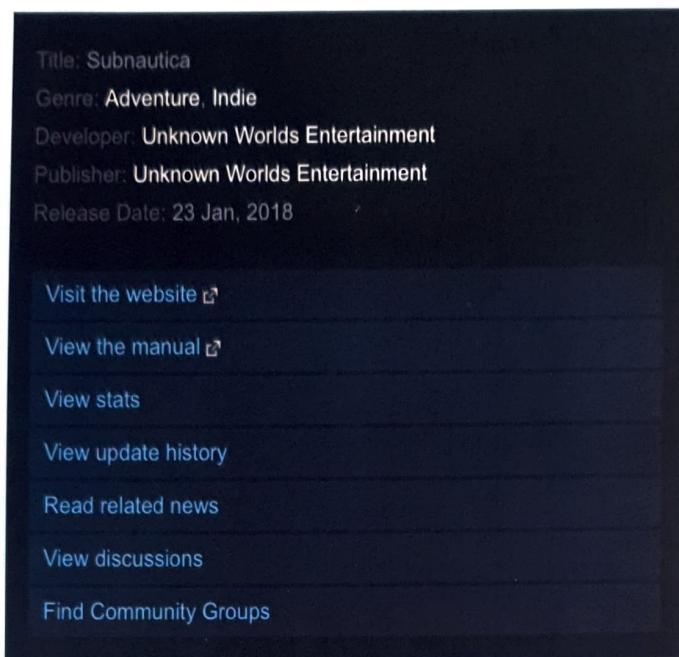
Enter the characters above

Refresh



After registering, the user can browse the steam market using their new steam account. When the user wants to purchase a video game for the PC, they can browse the steam market for the particular game in mind. The user will be displayed with screenshots, clips of the gameplay, price of the game and further descriptions of the game. A receipt will be sent to their email once they checkout from the cart which may contain more than 1 game to be purchased.





Unnormalized Form (UNF)

repeating group ?

SteamAccount (SteamID, Password, Email, FullName, City, Country, Invoice, PurchaseDate, TimePST, PaymentMethod, GameName, Developer, Genre, ReleaseDate, Price)

SteamID	Password	Email	FullName	City
canonb00m	dragonball911	dragoncanonn@gmail.com	Ivan Budiarto	Jakarta
chrisnathan20	mautauaja321	chrisnathan20@gmail.com	Chris Nathan	Jakarta
mattasp123	yolo4lyfe	matthewang65@gmail.com	Matthew Ang	Jakarta
tigerclaww	tigerdidi911	tigero911@gmail.com	Jason Ferdinand	Kuala Lumpur
blackbutlerz	iduunn00	blackbutl3rzz@gmail.com	Justin Arbi	Kuala Lumpur
pythonslayer	due21022019	csproject.kjs@gmail.com	Tammy Abraham	Sydney
balling02	ZO.02theguard	plasmaball02@gmail.com	Lonzo Ball	Sydney
indig00man	matang44	melvin.hamdani123@gmail.com	Melvin Hamdani	Manila

Country	InvoiceNo	PurchaseDate	TimePST	PaymentMethod
Indonesia	56494945456164	2019-02-08	04:00	Paypal
Indonesia	69789145947856	2018-12-02	16:30	Steam Wallet
Indonesia	89456545656111	2018-10-11	21:00	Steam Wallet
Malaysia	54789145947856	2019-01-14	02:30	Paypal
Malaysia	51564897218845	2018-11-12	16:30	Steam Wallet
Australia	12346598765414	2019-01-12	15:30	Steam Wallet
Australia	67899145947856	2019-01-02	17:00	Paypal
	45444154896894	2018-12-05	12:30	Paypal
Phillipines	34562789301023	2019-02-03	06:30	Steam Wallet

GameName	Developer	Genre	ReleaseDate	Price
Grand Theft Auto V	Rockstar Games	Action	2015-04-14	249999
Subnautica	Unknown Worlds	Adventure	2018-01-23	119999
Football Manager 2019	SEGA	Sports	2018-11-02	419999
PUBG	Tencent	Battle Royale	2017-03-23	199999
Grand Theft Auto V	Rockstar Games	Action	2015-04-14	249999
PUBG	Tencent	Battle Royale	2017-03-23	199999
NBA 2K19	2K	Sports	2018-09-07	619999
Rainbow Six Siege	Ubisoft	Action	2015-12-01	169999
Subnautica	Unknown Worlds	Adventure	2018-01-23	119999
Watch Dogs 2	Ubisoft	Adventure	2016-11-28	699999
WWE 2K19	2K	Sports	2018-10-09	619999
Football Manager 2019	SEGA	Sports	2018-11-02	419999
Watch Dogs 2	Ubisoft	Adventure	2016-11-28	699999
NBA 2K19	2K	Sports	2018-09-07	619999
PUBG	Tencent	Battle Royale	2017-03-23	199999
Grand Theft Auto V	Rockstar Games	Action	2015-04-14	249999
PUBG	Tencent	Battle Royale	2017-03-23	199999
Far Cry 5	Ubisoft	Action	2018-03-27	599999
Rainbow Six Siege	Ubisoft	Action	2015-12-01	169999

First Normalized Form (1NF)

SteamAccount (SteamID, Password, Email, FullName, City, Country, InvoiceNo, PurchaseDate, TimePST, PaymentMethod, GameName, Developer, Genre, ReleaseDate, Price)

SteamID	Password	Email	FullName	City
canonb00m	dragonball911	dragoncanonn@gmail.com	Ivan Budiarto	Jakarta
chrisnathan20	mautauaja321	chrisnathan20@gmail.com	Chris Nathan	Jakarta
chrisnathan20	mautauaja321	chrisnathan20@gmail.com	Chris Nathan	Jakarta
mattasp123	yolo4lyfe	matthewwang65@gmail.com	Matthew Ang	Jakarta
mattasp123	yolo4lyfe	matthewwang65@gmail.com	Matthew Ang	Jakarta
tigerclaww	tigerdidi911	tigero911@gmail.com	Jason Ferdinand	Kuala Lumpur
tigerclaww	tigerdidi911	tigero911@gmail.com	Jason Ferdinand	Kuala Lumpur
tigerclaww	tigerdidi911	tigero911@gmail.com	Jason Ferdinand	Kuala Lumpur
blackbutlerz	iduunn00	blackbutl3rz@gmail.com	Justin Arbi	Kuala Lumpur
blackbutlerz	iduunn00	blackbutl3rz@gmail.com	Justin Arbi	Kuala Lumpur
blackbutlerz	iduunn00	blackbutl3rz@gmail.com	Justin Arbi	Kuala Lumpur
pythonslayer	due21022019	csproject.kjs@gmail.com	Tammy Abraham	Sydney
pythonslayer	due21022019	csproject.kjs@gmail.com	Tammy Abraham	Sydney
balling02	Z0.02theguard	plasmaball02@gmail.com	Lonzo Ball	Sydney
balling02	Z0.02theguard	plasmaball02@gmail.com	Lonzo Ball	Sydney
balling02	Z0.02theguard	plasmaball02@gmail.com	Lonzo Ball	Sydney
balling02	Z0.02theguard	plasmaball02@gmail.com	Lonzo Ball	Sydney
balling02	Z0.02theguard	plasmaball02@gmail.com	Lonzo Ball	Sydney
indigo00man	matang44	melvin.hamdani123@gmail.com	Melvin Hamdani	Manila

Country	InvoiceNo	PurchaseDate	TimePST	PaymentMethod
Indonesia	56494945456164	2019-02-08	04:00	Paypal
Indonesia	69789145947856	2018-12-02	16:30	Steam Wallet
Indonesia	69789145947856	2018-12-02	16:30	Steam Wallet
Indonesia	89456545656111	2018-10-11	21:00	Steam Wallet
Indonesia	89456545656111	2018-10-11	21:00	Steam Wallet
Malaysia	54789145947856	2019-01-14	02:30	Paypal
Malaysia	54789145947856	2019-01-14	02:30	Paypal
Malaysia	54789145947856	2019-01-14	02:30	Paypal
Malaysia	51564897218845	2018-11-12	16:30	Steam Wallet
Malaysia	51564897218845	2018-11-12	16:30	Steam Wallet
Malaysia	51564897218845	2018-11-12	16:30	Steam Wallet
Australia	12346598765414	2019-01-12	15:30	Steam Wallet
Australia	12346598765414	2019-01-12	15:30	Steam Wallet
Australia	67899145947856	2019-01-02	17:00	Paypal
Australia	67899145947856	2019-01-02	17:00	Paypal
Australia	45444154896894	2018-12-05	12:30	Paypal
Australia	45444154896894	2018-12-05	12:30	Paypal
Australia	45444154896894	2018-12-05	12:30	Paypal
Phillipines	34562789301023	2019-02-03	06:30	Steam Wallet

GameName	Developer	Genre	ReleaseDate	Price
Grand Theft Auto V	Rockstar Games	Action	2015-04-14	249999
Subnautica	Unknown Worlds	Adventure	2018-01-23	119999
Football Manager 2019	SEGA	Sports	2018-11-02	419999
PUBG	Tencent	Battle Royale	2017-03-23	199999
Grand Theft Auto V	Rockstar Games	Action	2015-04-14	249999
PUBG	Tencent	Battle Royale	2017-03-23	199999
NBA 2K19	2K	Sports	2018-09-07	619999
Rainbow Six Siege	Ubisoft	Action	2015-12-01	169999
Subnautica	Unknown Worlds	Adventure	2018-01-23	119999
Watch Dogs 2	Ubisoft	Adventure	2016-11-28	699999
WWE 2K19	2K	Sports	2018-10-09	619999
Football Manager 2019	SEGA	Sports	2018-11-02	419999
Watch Dogs 2	Ubisoft	Adventure	2016-11-28	699999
NBA 2K19	2K	Sports	2018-09-07	619999
PUBG	Tencent	Battle Royale	2017-03-23	199999
Grand Theft Auto V	Rockstar Games	Action	2015-04-14	249999
PUBG	Tencent	Battle Royale	2017-03-23	199999
Far Cry 5	Ubisoft	Action	2018-03-27	599999
Rainbow Six Siege	Ubisoft	Action	2015-12-01	169999

Second Normalized Form (2NF)

SteamAccount (~~SteamID~~, Password, Email, FullName, City, Country, InvoiceNo, PurchaseDate, TimePST, PaymentMethod)

~~InvoiceNo~~ ← Steam ID
 since ~~InvoiceNo~~ is a SteamID
 can have
 more than one
 InvoiceNo,
 meaning SteamID
 will not be unique

SteamID	Password	Email
canonb00m	dragonball911	dragoncanonn@gmail.com
chrisnathan20	mautauaja321	chrisnathan20@gmail.com
mattasp123	yolo4lyfe	matthewang65@gmail.com
tigerclaww	tigerdidi911	tigero911@gmail.com
blackbutlerz	iduunn00	blackbutl3rz@gmail.com
pythonslayer	due21022019	csproject.kjs@gmail.com
balling02	Z0.02theguard	plasmaball02@gmail.com
indig00man	matang44	melvin.hamdani123@gmail.com
FullName	City	Country
Ivan Budiarto	Jakarta	Indonesia
Chris Nathan	Jakarta	Indonesia
Matthew Ang	Jakarta	Indonesia
Jason Ferdinand	Kuala Lumpur	Malaysia
Justin Arbi	Kuala Lumpur	Malaysia
Tammy Abraham	Sydney	Australia
Lonzo Ball	Sydney	Australia
Melvin Hamdani	Manila	Phillipines

InvoiceNo	PurchaseDate	TimePST	PaymentMethod
56494945456164	2019-02-08	04:00	Paypal
69789145947856	2018-12-02	16:30	Steam Wallet
69789145947856	2018-12-02	16:30	Steam Wallet
89456545656111	2018-10-11	21:00	Steam Wallet
89456545656111	2018-10-11	21:00	Steam Wallet
54789145947856	2019-01-14	02:30	Paypal
54789145947856	2019-01-14	02:30	Paypal
54789145947856	2019-01-14	02:30	Paypal
51564897218845	2018-11-12	16:30	Steam Wallet
51564897218845	2018-11-12	16:30	Steam Wallet
51564897218845	2018-11-12	16:30	Steam Wallet
12346598765414	2019-01-12	15:30	Steam Wallet
12346598765414	2019-01-12	15:30	Steam Wallet
67899145947856	2019-01-02	17:00	Paypal
67899145947856	2019-01-02	17:00	Paypal
45444154896894	2018-12-05	12:30	Paypal
45444154896894	2018-12-05	12:30	Paypal
45444154896894	2018-12-05	12:30	Paypal
34562789301023	2019-02-03	06:30	Steam Wallet

Game (GameName, Developer, Genre, ReleaseDate, Price)

GameName	Developer	Genre	ReleaseDate	Price
Grand Theft Auto V	Rockstar Games	Action	2015-04-14	249999
Subnautica	Unknown Worlds	Adventure	2018-01-23	119999
Football Manager 2019	SEGA	Sports	2018-11-02	419999
PUBG	Tencent	Battle Royale	2017-03-23	199999
NBA 2K19	2K	Sports	2018-09-07	619999
Rainbow Six Siege	Ubisoft	Action	2015-12-01	169999
Watch Dogs 2	Ubisoft	Adventure	2016-11-28	699999
WWE 2K19	2K	Sports	2018-10-09	619999
Far Cry 5	Ubisoft	Action	2018-03-27	599999

Invoice_Game(Invoice, GameName)

InvoiceNo	GameName
56494945456164	Grand Theft Auto V
69789145947856	Subnautica
69789145947856	Football Manager 2019
89456545656111	PUBG
89456545656111	Grand Theft Auto V
54789145947856	PUBG
54789145947856	NBA 2K19
54789145947856	Rainbow Six Siege
51564897218845	Subnautica
51564897218845	Watch Dogs 2
51564897218845	WWE 2K19
12346598765414	Football Manager 2019
12346598765414	Watch Dogs 2
67899145947856	NBA 2K19
67899145947856	PUBG
45444154896894	Grand Theft Auto V
45444154896894	PUBG
45444154896894	Far Cry 5
34562789301023	Rainbow Six Siege

Third Normalized Form (3NF)

SteamAccount (SteamID, Password, Email, FullName, City)

SteamID	Password	Email	FullName	City
canonb00m	dragonball911	dragoncanonn@gmail.com	Ivan Budiarto	Jakarta
chrismathan20	mautauaja321	chrismathan20@gmail.com	Chris Nathan	Jakarta
mattasp123	yolo4lyfe	matthewwang65@gmail.com	Matthew Ang	Jakarta
tigerclaww	tigerdidi911	tigero911@gmail.com	Jason Ferdinand	Kuala Lumpur
blackbutlerz	iduunn00	blackbutl3rzz@gmail.com	Justin Arbi	Kuala Lumpur
pythonslayer	due21022019	csproject.kjs@gmail.com	Tammy Abraham	Sydney
balling02	ZO.02theguard	plasmaball02@gmail.com	Lonzo Ball	Sydney
indig00man	matang44	melvin.hamdani123@gmail.com	Melvin Hamdani	Manila

City_Country (City, Country)

City	Country
Jakarta	Indonesia
Kuala Lumpur	Malaysia
Sydney	Australia
Manila	Phillipines

Invoice (InvoiceNo, SteamID, PurchaseDate, TimePST, PaymentMethod)

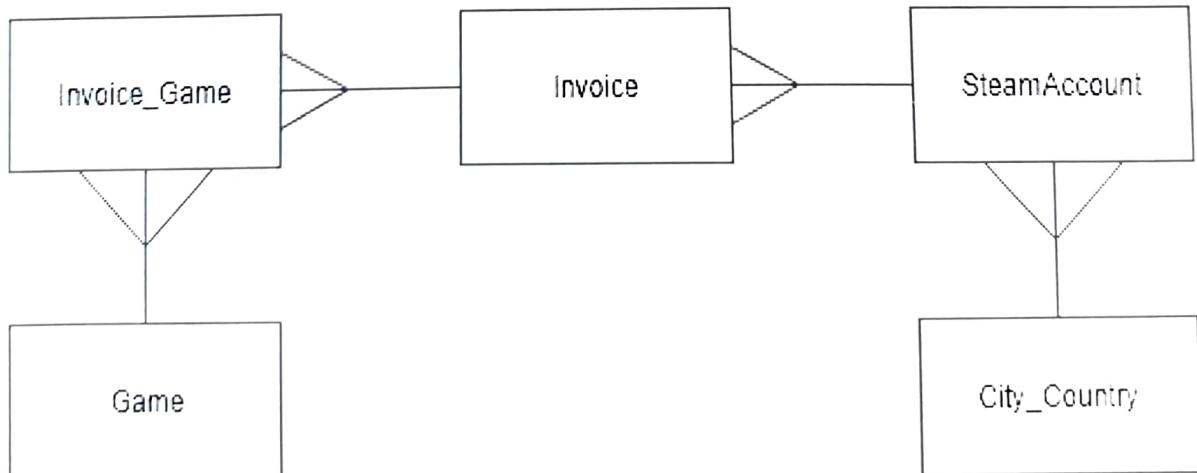
InvoiceNo	SteamID	PurchaseDate	TimePST	PaymentMethod
56494945456164	canonb00m	2019-02-08	04:00	Paypal
69789145947856	chrismathan20	2018-12-02	16:30	Steam Wallet
89456545656111	mattasp123	2018-10-11	21:00	Steam Wallet
54789145947856	tigerclaww	2019-01-14	02:30	Paypal
51564897218845	blackbutlerz	2018-11-12	16:30	Steam Wallet
12346598765414	pythonslayer	2019-01-12	15:30	Steam Wallet
67899145947856	balling02	2019-01-02	17:00	Paypal
45444154896894	balling02	2018-12-05	12:30	Paypal
34562789301023	indig00man	2019-02-03	06:30	Steam Wallet

Game (GameName, Developer, Genre, ReleaseDate, Price)

GameName	Developer	Genre	ReleaseDate	Price
Grand Theft Auto V	Rockstar Games	Action	2015-04-14	249999
Subnautica	Unknown Worlds	Adventure	2018-01-23	119999
Football Manager 2019	SEGA	Sports	2018-11-02	419999
PUBG	Tencent	Battle Royale	2017-03-23	199999
NBA 2K19	2K	Sports	2018-09-07	619999
Rainbow Six Siege	Ubisoft	Action	2015-12-01	169999
Watch Dogs 2	Ubisoft	Adventure	2016-11-28	699999
WWE 2K19	2K	Sports	2018-10-09	619999
Far Cry 5	Ubisoft	Action	2018-03-27	599999

Invoice_Game(InvoiceNo, GameName)

InvoiceNo	GameName
56494945456164	Grand Theft Auto V
69789145947856	Subnautica
69789145947856	Football Manager 2019
89456545656111	PUBG
89456545656111	Grand Theft Auto V
54789145947856	PUBG
54789145947856	NBA 2K19
54789145947856	Rainbow Six Siege
51564897218845	Subnautica
51564897218845	Watch Dogs 2
51564897218845	WWE 2K19
12346598765414	Football Manager 2019
12346598765414	Watch Dogs 2
67899145947856	NBA 2K19
67899145947856	PUBG
45444154896894	Grand Theft Auto V
45444154896894	PUBG
45444154896894	Far Cry 5
34562789301023	Rainbow Six Siege

Entity Relationship (ER) Diagram

Data Dictionary

SteamAccount

Field Name	Type	Length	Validations	Descriptions	Example
SteamID	VARCHAR	15	Presence Check	User's unique username	chrisnathan20
Password	VARCHAR	15	Presence Check	User's password for steam account	dragonball911
Email	VARCHAR	30	Presence Check	User's email	matthewang65@gmail.com
FullName	VARCHAR	30	Presence Check	User's registered full name	Tammy Abraham
City(FK)	VARCHAR	20	Presence Check	User's registered city that he/she lives in	Kuala Lumpur

City_Country

Field Name	Type	Length	Validations	Descriptions	Example
City	VARCHAR	20	Presence Check	User's registered city that he/she lives in	Kuala Lumpur
Country	VARCHAR	20	Presence Check	User's registered country that he/she lives in	Indonesia

Invoice

Field Name	Type	Length	Validations	Descriptions	Example
InvoiceNo	VARCHAR	14	Length Check	Invoice's unique number	34562789301023
SteamID(FK)	VARCHAR	15	Presence Check	User's unique username	chrisnathan20
Purchase Date	DATE	10	Format Check	Date when user purchases	2019-01-02
TimePST	VARCHAR	5	Presence Check	Time when user purchases in PST timezone	02:30
Payment Method	VARCHAR	15	Presence Check	User's payment method of choice	Steam Wallet

Game

Field Name	Type	Length	Validations	Descriptions	Example
<u>Game Name</u>	VARCHAR	30	Presence Check	Name of the game	Subnautica
Developer	VARCHAR	30	Presence Check	Developer of the game	Ubisoft
Genre	VARCHAR	15	Presence Check	Genre of the game	Sports
Release Date	DATE	10	Format Check	Date when game was released	2018-11-02
Price	REAL	-	Presence Check	Price of the game	499999

Invoice_Game

Field Name	Type	Length	Validations	Descriptions	Example
<u>InvoiceNo(FK)</u>	VARCHAR	14	Length Check	Invoice's unique number	34562789301023
<u>Game Name(FK)</u>	VARCHAR	30	Presence Check	Name of the game	Subnautica

Actualization

CREATE DATABASE STEAM

CREATE TABLE steamaccount(

SteamID VARCHAR(15),

Password VARCHAR(15),

Email VARCHAR(30),

FullName VARCHAR(30),

City VARCHAR(20),

PRIMARY KEY (SteamID)

)

CREATE TABLE city_country(

City VARCHAR(20),

Country VARCHAR(20),

PRIMARY KEY (City)

)

CREATE TABLE invoice(

InvoiceNo VARCHAR(14),

SteamID VARCHAR (15),

PurchaseDate DATE,

TimePST VARCHAR (5),

PaymentMethod VARCHAR (15),

PRIMARY KEY (InvoiceNo)

)

CREATE TABLE game(

GameName VARCHAR(30),

Developer VARCHAR(30),

Genre VARCHAR(15),

ReleaseDate DATE,

Price REAL,

PRIMARY KEY (GameName)

)

CREATE TABLE invoice_game(

InvoiceNo VARCHAR(14),

GameName VARCHAR (30),

PRIMARY KEY (InvoiceNo, GameName)

)

ALTER TABLE steamaccount
 ADD FOREIGN KEY (City)
 REFERENCES city_country(City)

ALTER TABLE invoice
 ADD FOREIGN KEY (SteamID)
 REFERENCES steamaccount(SteamID)

ALTER TABLE invoice_game
 ADD FOREIGN KEY (GameName)
 REFERENCES game(GameName)

ALTER TABLE invoice_game
 ADD FOREIGN KEY (InvoiceNo)
 REFERENCES invoice(InvoiceNo)

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 SteamID 🛡	varchar(15)	latin1_swedish_ci		No	None			Change Drop ▾ More
<input type="checkbox"/>	2 Password	varchar(15)	latin1_swedish_ci		Yes	NULL			Change Drop ▾ More
<input type="checkbox"/>	3 Email	varchar(30)	latin1_swedish_ci		Yes	NULL			Change Drop ▾ More
<input type="checkbox"/>	4 FullName	varchar(30)	latin1_swedish_ci		Yes	NULL			Change Drop ▾ More
<input type="checkbox"/>	5 City 🌐	varchar(20)	latin1_swedish_ci		Yes	NULL			Change Drop ▾ More

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 City 🌐	varchar(20)	latin1_swedish_ci		No	None			Change Drop ▾ More
<input type="checkbox"/>	2 Country	varchar(20)	latin1_swedish_ci		Yes	NULL			Change Drop ▾ More

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	InvoiceNo 	varchar(14)	latin1_swedish_ci		No	None		 Change  Drop ▾ More	
2	SteamID 	varchar(15)	latin1_swedish_ci		Yes	NULL		 Change  Drop ▾ More	
3	PurchaseDate	date			Yes	NULL		 Change  Drop ▾ More	
4	TimePST	varchar(5)	latin1_swedish_ci		Yes	NULL		 Change  Drop ▾ More	
5	PaymentMethod	varchar(15)	latin1_swedish_ci		Yes	NULL		 Change  Drop ▾ More	

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	GameName 	varchar(30)	latin1_swedish_ci		No	None		 Change  Drop ▾ More	
2	Developer	varchar(30)	latin1_swedish_ci		Yes	NULL		 Change  Drop ▾ More	
3	Genre	varchar(15)	latin1_swedish_ci		Yes	NULL		 Change  Drop ▾ More	
4	ReleaseDate	date			Yes	NULL		 Change  Drop ▾ More	
5	Price	double			Yes	NULL		 Change  Drop ▾ More	

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	InvoiceNo 	varchar(14)	latin1_swedish_ci		No	None		 Change  Drop ▾ More	
2	GameName  	varchar(30)	latin1_swedish_ci		No	None		 Change  Drop ▾ More	

Data Insert

```
INSERT INTO city_country (City, Country) VALUES ('Jakarta', 'Indonesia'), ('Kuala Lumpur', 'Malaysia'), ('Sydney', 'Australia'), ('Manila', 'Phillipines')
```

```
INSERT INTO steamaccount (SteamID, Password, Email, FullName, City) VALUES ('canonb00m', 'dragonball911', 'dragoncanonn@gmail.com', 'Ivan Budiarto', 'Jakarta'), ('chrisnathan20', 'mautauaja321', 'chrisnathan20@gmail.com', 'Chris Nathan', 'Jakarta'), ('mattasp123', 'yolo4lyfe', 'matthewwang65@gmail.com', 'Matthew Ang', 'Jakarta'), ('tigerclaww', 'tigerdidi911', 'tigero911@gmail.com', 'Jason Ferdinand', 'Kuala Lumpur'), ('blackbutlerz', 'iduunn00', 'blackbutl3rz@gmail.com', 'Justin Arbi', 'Kuala Lumpur'), ('pythonslayer', 'due21022019', 'csproject.kjs@gmail.com', 'Tammy Abraham', 'Sydney'), ('balling02', 'Z0.02theguard', 'plasmaball02@gmail.com', 'Lonzo Ball', 'Sydney'), ('indig00man', 'matang44', 'melvin.hamdani123@gmail.com', 'Melvin Hamdani', 'Manila')
```

```
INSERT INTO invoice (InvoiceNo, SteamID, PurchaseDate, TimePST, PaymentMethod) VALUES
('56494945456164', 'canonb00m', '2019-02-08', '04:00', 'Paypal'), ('69789145947856',
'chrisnathan20', '2018-12-02', '16:30', 'Steam Wallet'), ('89456545656111', 'mattasp123',
'2018-10-11', '21:00', 'Steam Wallet'), ('54789145947856', 'tigerclaww', '2019-01-14', '02:30',
'Paypal'), ('51564897218845', 'blackbutlerz', '2018-11-12', '16:30', 'Steam Wallet'),
('12346598765414', 'pythonslayer', '2019-01-12', '15:30', 'Steam Wallet'), ('67899145947856',
'balling02', '2019-01-02', '17:00', 'Paypal'), ('45444154896894', 'balling02', '2018-12-05',
'12:30', 'Paypal'), ('34562789301023', 'indig00man', '2019-02-03', '06:30', 'Steam Wallet')
```

```
INSERT INTO game (GameName, Developer, Genre, ReleaseDate, Price) VALUES ('Grand Theft
Auto V', 'Rockstar Games', 'Action', '2015-04-14', '249999'), ('Subnautica', 'Unknown Worlds',
'Adventure', '2018-01-23', '119999'), ('Football Manager 2019', 'SEGA', 'Sports', '2018-11-02',
'419999'), ('PUBG', 'Tencent', 'Battle Royale', '2017-03-23', '199999'), ('NBA 2K19', '2K',
'Sports', '2018-09-07', '619999'), ('Rainbow Six Siege', 'Ubisoft', 'Action', '2015-12-01',
'169999'), ('Watch Dogs 2', 'Ubisoft', 'Adventure', '2016-11-28', '699999'), ('WWE 2K19', '2K',
'Sports', '2018-10-09', '619999'), ('Far Cry 5', 'Ubisoft', 'Action', '2018-03-27', '599999')
```

```
INSERT INTO invoice_game(InvoiceNo, GameName) VALUES ('56494945456164', 'Grand Theft
Auto V'), ('69789145947856', 'Subnautica'), ('69789145947856', 'Football Manager 2019'),
('89456545656111', 'PUBG'), ('89456545656111', 'Grand Theft Auto V'), ('54789145947856',
'PUBG'), ('54789145947856', 'NBA 2K19'), ('54789145947856', 'Rainbow Six Siege'),
('51564897218845', 'Subnautica'), ('51564897218845', 'Watch Dogs 2'), ('51564897218845',
'WWE 2K19'), ('12346598765414', 'Football Manager 2019'), ('12346598765414', 'Watch Dogs
2'), ('67899145947856', 'NBA 2K19'), ('67899145947856', 'PUBG'), ('45444154896894', 'Grand
Theft Auto V'), ('45444154896894', 'PUBG'), ('45444154896894', 'Far Cry 5'),
('34562789301023', 'Rainbow Six Siege')
```

	<input type="checkbox"/>	SteamID	Password	Email	FullName	City
<input type="checkbox"/>		balling02	ZO_02theguard	plasmaball02@gmail.com	Lonzo Ball	Sydney
<input type="checkbox"/>		blackbutlerz	iduunn00	blackbutl3rz@gmail.com	Justin Arbi	Kuala Lumpur
<input type="checkbox"/>		canonb00m	dragonball911	dragoncanonn@gmail.com	Ivan Budiarto	Jakarta
<input type="checkbox"/>		chrisnathan20	mautauaja321	chrisnathan20@gmail.com	Chris Nathan	Jakarta
<input type="checkbox"/>		indig00man	matang44	melvin.hamdani123@gmail.com	Melvin Hamdani	Manila
<input type="checkbox"/>		mattasp123	yolo4lyfe	matthewang65@gmail.com	Matthew Ang	Jakarta
<input type="checkbox"/>		pythonslayer	due21022019	csproject.kjs@gmail.com	Tammy Abraham	Sydney
<input type="checkbox"/>		tigerclaww	tigerdidi911	tigero911@gmail.com	Jason Ferdinand	Kuala Lumpur

	<input type="checkbox"/>	City	Country
<input type="checkbox"/>		Jakarta	Indonesia
<input type="checkbox"/>		Kuala Lumpur	Malaysia
<input type="checkbox"/>		Manila	Phillipines
<input type="checkbox"/>		Sydney	Australia

	<input type="checkbox"/>	InvoiceNo	SteamID	PurchaseDate	TimePST	PaymentMethod
<input type="checkbox"/>		12346598765414	pythonslayer	2019-01-12	15:30	Steam Wallet
<input type="checkbox"/>		34562789301023	indig00man	2019-02-03	06:30	Steam Wallet
<input type="checkbox"/>		45444154896894	balling02	2018-12-05	12:30	Paypal
<input type="checkbox"/>		51564897218845	blackbutlerz	2018-11-12	16:30	Steam Wallet
<input type="checkbox"/>		54789145947856	tigerclaww	2019-01-14	02:30	Paypal
<input type="checkbox"/>		56494945456164	canonb00m	2019-02-08	04:00	Paypal
<input type="checkbox"/>		67899145947856	balling02	2019-01-02	17:00	Paypal
<input type="checkbox"/>		69789145947856	chrisnathan20	2018-12-02	16:30	Steam Wallet
<input type="checkbox"/>		89456545656111	mattasp123	2018-10-11	21:00	Steam Wallet

	<input type="checkbox"/>	Edit	Copy	Delete	GameName	Developer	Genre	ReleaseDate	Price
	<input type="checkbox"/>	Edit	Copy	Delete	Far Cry 5	Ubisoft	Action	2018-03-27	599999
	<input type="checkbox"/>	Edit	Copy	Delete	Football Manager 2019	SEGA	Sports	2018-11-02	419999
	<input type="checkbox"/>	Edit	Copy	Delete	Grand Theft Auto V	Rockstar Games	Action	2015-04-14	249999
	<input type="checkbox"/>	Edit	Copy	Delete	NBA 2K19	2K	Sports	2018-09-07	619999
	<input type="checkbox"/>	Edit	Copy	Delete	PUBG	Tencent	Battle Royale	2017-03-23	199999
	<input type="checkbox"/>	Edit	Copy	Delete	Rainbow Six Siege	Ubisoft	Action	2015-12-01	169999
	<input type="checkbox"/>	Edit	Copy	Delete	Subnautica	Unknown Worlds	Adventure	2018-01-23	119999
	<input type="checkbox"/>	Edit	Copy	Delete	Watch Dogs 2	Ubisoft	Adventure	2016-11-28	699999
	<input type="checkbox"/>	Edit	Copy	Delete	WWE 2K19	2K	Sports	2018-10-09	619999

	<input type="checkbox"/>	Edit	Copy	Delete	InvoiceNo	GameName
	<input type="checkbox"/>	Edit	Copy	Delete	12346598765414	Football Manager 2019
	<input type="checkbox"/>	Edit	Copy	Delete	12346598765414	Watch Dogs 2
	<input type="checkbox"/>	Edit	Copy	Delete	34562789301023	Rainbow Six Siege
	<input type="checkbox"/>	Edit	Copy	Delete	45444154896894	Far Cry 5
	<input type="checkbox"/>	Edit	Copy	Delete	45444154896894	Grand Theft Auto V
	<input type="checkbox"/>	Edit	Copy	Delete	45444154896894	PUBG
	<input type="checkbox"/>	Edit	Copy	Delete	51564897218845	Subnautica
	<input type="checkbox"/>	Edit	Copy	Delete	51564897218845	Watch Dogs 2
	<input type="checkbox"/>	Edit	Copy	Delete	51564897218845	WWE 2K19
	<input type="checkbox"/>	Edit	Copy	Delete	54789145947856	NBA 2K19
	<input type="checkbox"/>	Edit	Copy	Delete	54789145947856	PUBG
	<input type="checkbox"/>	Edit	Copy	Delete	54789145947856	Rainbow Six Siege
	<input type="checkbox"/>	Edit	Copy	Delete	56494945456164	Grand Theft Auto V
	<input type="checkbox"/>	Edit	Copy	Delete	67899145947856	NBA 2K19
	<input type="checkbox"/>	Edit	Copy	Delete	67899145947856	PUBG
	<input type="checkbox"/>	Edit	Copy	Delete	69789145947856	Football Manager 2019
	<input type="checkbox"/>	Edit	Copy	Delete	69789145947856	Subnautica
	<input type="checkbox"/>	Edit	Copy	Delete	89456545656111	Grand Theft Auto V
	<input type="checkbox"/>	Edit	Copy	Delete	89456545656111	PUBG

Data Manipulation

When the manager wants to see the total amount of money gained for each company

```
SELECT SUM(price), Developer
FROM game, invoice_game
WHERE (game.GameName) = (invoice_game.GameName)
GROUP BY (Developer)
```

SUM(price) Developer

1859997	2K
749997	Rockstar Games
839998	SEGA
799996	Tencent
2339995	Ubisoft
239998	Unknown Worlds

When the manager wants to see the number of PUBG copies sold

```
SELECT COUNT(GameName), GameName
FROM invoice_game
WHERE (invoice_game.GameName = 'PUBG')
GROUP BY (GameName)
```

COUNT(GameName) GameName

4	PUBG
---	------

When the manager wants to see the number of users from each country from the most to the least

```
SELECT COUNT(SteamID), Country
FROM steamaccount, city_country
WHERE (steamaccount.City = city_country.City)
GROUP BY Country
ORDER BY COUNT(SteamID) DESC
```

COUNT(SteamID)	1	Country
3		Indonesia
2		Malaysia
2		Australia
1		Phillipines

When the manager wants to see the total amount of money spent by users from Australia

```
SELECT SUM(Price), Country
FROM steamaccount, city_country, invoice, invoice_game, game
WHERE (steamaccount.City) = (city_country.City)
AND (invoice.SteamID) = (steamaccount.SteamID)
AND (invoice.InvoiceNo) = (invoice_game.InvoiceNo)
AND (invoice_game.GameName) = (invoice_game.GameName)
AND (Country = 'Australia')
```

SUM(Price)	Country
25899937	Australia

When the manager wants to see the number of copies sold per genre ordered from the least to the most

```
SELECT COUNT(invoice_game.GameName), Genre
FROM game, invoice_game
WHERE (game.GameName) = (invoice_game.GameName)
GROUP BY Genre
ORDER BY COUNT(invoice_game.GameName) ASC
```

COUNT(invoice_game.GameName)	Genre
4	Battle Royale
4	Adventure
5	Sports
6	Action

When the manager wants to see all the games bought by the user 'balling02'

```
SELECT GameName, SteamID
FROM invoice, invoice_game
WHERE (invoice.InvoiceNo) = (invoice_game.InvoiceNo)
AND (invoice.SteamID) = 'balling02'
```

GameName	SteamID
Far Cry 5	balling02
Grand Theft Auto V	balling02
PUBG	balling02
NBA 2K19	balling02
PUBG	balling02

When the manager wants to see the most and least expensive game bought in 2018 by ordering them from the most to the least

```
SELECT game.Price, invoice_game.GameName  
FROM game, invoice_game, invoice  
WHERE (invoice.InvoiceNo) = (invoice_game.InvoiceNo)  
AND (invoice_game.GameName) = (game.GameName)  
AND (invoice.PurchaseDate) > '2017-12-31'  
AND (invoice.PurchaseDate) < '2019-01-01'  
GROUP BY (game.GameName)  
ORDER BY (game.Price) DESC
```

Price	GameName
699999	Watch Dogs 2
619999	WWE 2K19
599999	Far Cry 5
419999	Football Manager 2019
249999	Grand Theft Auto V
199999	PUBG
119999	Subnautica

When the manager wants to see the total price and number of games bought using the Steam Wallet Method for each country ordered from the most games bought with Steam Wallet to the least

```
SELECT COUNT(invoice.PaymentMethod), sum(game.Price), city_country.Country  
FROM steamaccount, city_country, invoice, invoice_game, game  
WHERE (steamaccount.City) = (city_country.City)  
AND (steamaccount.SteamID) = (invoice.SteamID)  
AND (invoice.InvoiceNo) = (invoice_game.InvoiceNo)  
AND (invoice_game.GameName) = (game.GameName)  
AND (invoice.PaymentMethod) = 'Steam Wallet'  
GROUP BY city_country.Country  
ORDER BY COUNT(invoice.PaymentMethod) DESC
```

COUNT(invoice.PaymentMethod)	sum(game.Price)	Country
4	989996	Indonesia
3	1439997	Malaysia
2	1119998	Australia
1	169999	Phillipines

When the manager wants to see all the games and its details that were released before 2018 ordered from the earliest to the latest release

```
SELECT Game.GameName, Developer, Genre, ReleaseDate, Price
```

```
FROM Game
```

```
WHERE (ReleaseDate) < '2018-01-01'
```

```
ORDER BY ReleaseDate ASC
```

GameName	Developer	Genre	ReleaseDate	Price
Grand Theft Auto V	Rockstar Games	Action	2015-04-14	249999
Rainbow Six Siege	Ubisoft	Action	2015-12-01	169999
Watch Dogs 2	Ubisoft	Adventure	2016-11-28	699999
PUBG	Tencent	Battle Royale	2017-03-23	199999

When the manager wants to see the total amount spent in purchasing sports games so far in 2019

```
SELECT SUM(price), game.Genre
```

```
FROM invoice, invoice_game, game
```

```
WHERE (invoice.InvoiceNo) = (invoice_game.InvoiceNo)
```

```
AND (invoice_game.GameName) = (game.GameName)
```

```
AND game.Genre = 'Sports'
```

```
AND invoice.PurchaseDate >= '2019-01-01'
```

SUM(price)
1659997

Genre
Sports

Item	Score
Project description	6
Normalization	8
ER Diagram	4
Data Dictionary	10
DDL	10
DML	8
Query	20
Total Layout	4

70/72