MMORPG GAME

(MASSIVELY MULTIPLAYER ONLINE ROLE-PLAYING GAME)

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MMORPG GAME DATABASE

1) Goal and Description

Short for massively multiplayer online role-playing game it is a type of game genre. MMORPGs are online role-playing multiplayer games which allow thousands of gamers to play in the game's evolving virtual world at the same time via the Internet.

This database aims to let the game developer to be able to track players that play the game and track there status to provide better experience to the player by making it more fun and challenging. So the developer need to know:
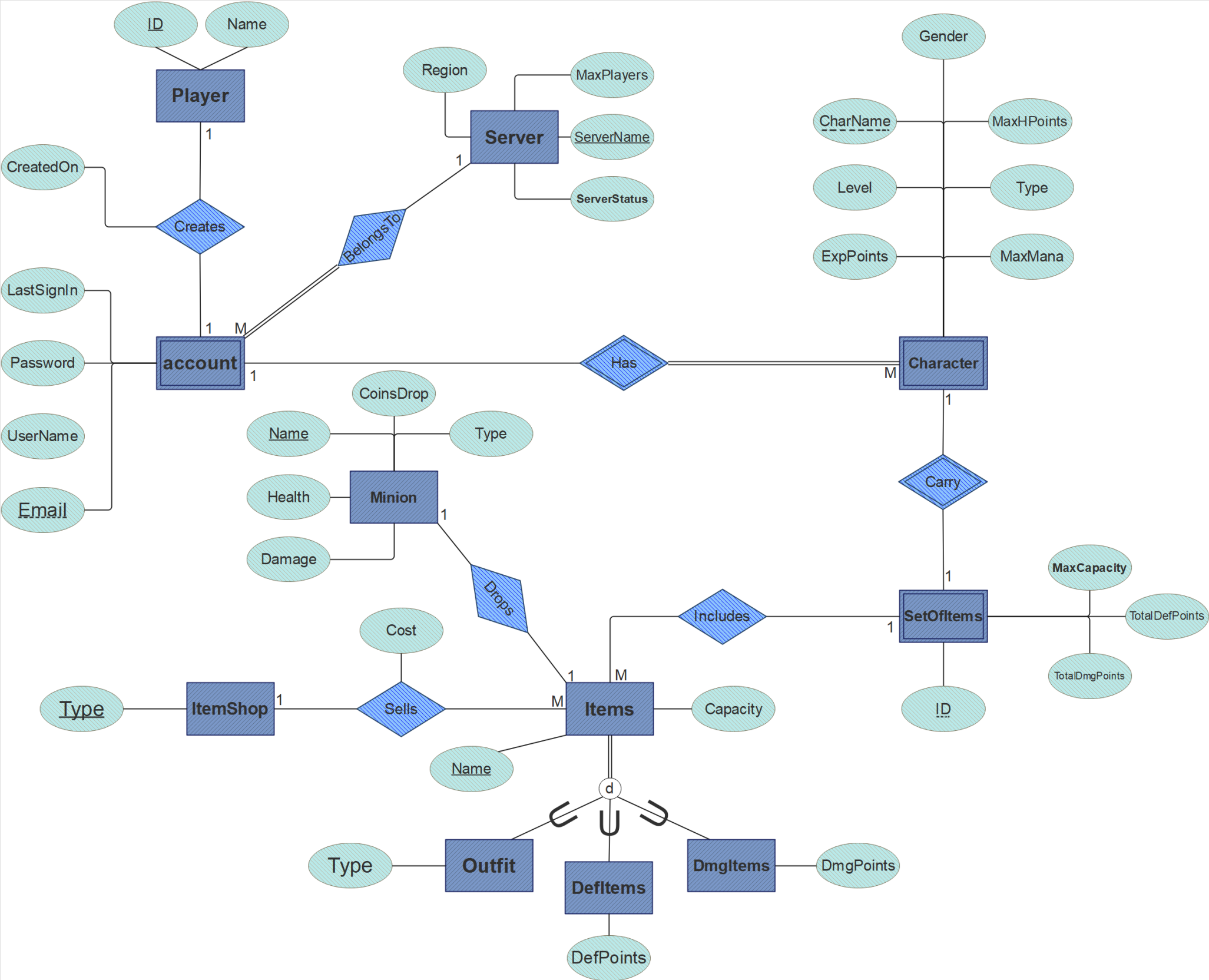
- How many players interested in the game in which region

- Which Items players buy the most.

- How many characters each player has and which.

- What is the best player every character has.

- What items should be added to the game to improve characters.

- If there is some characters more powerful than others.

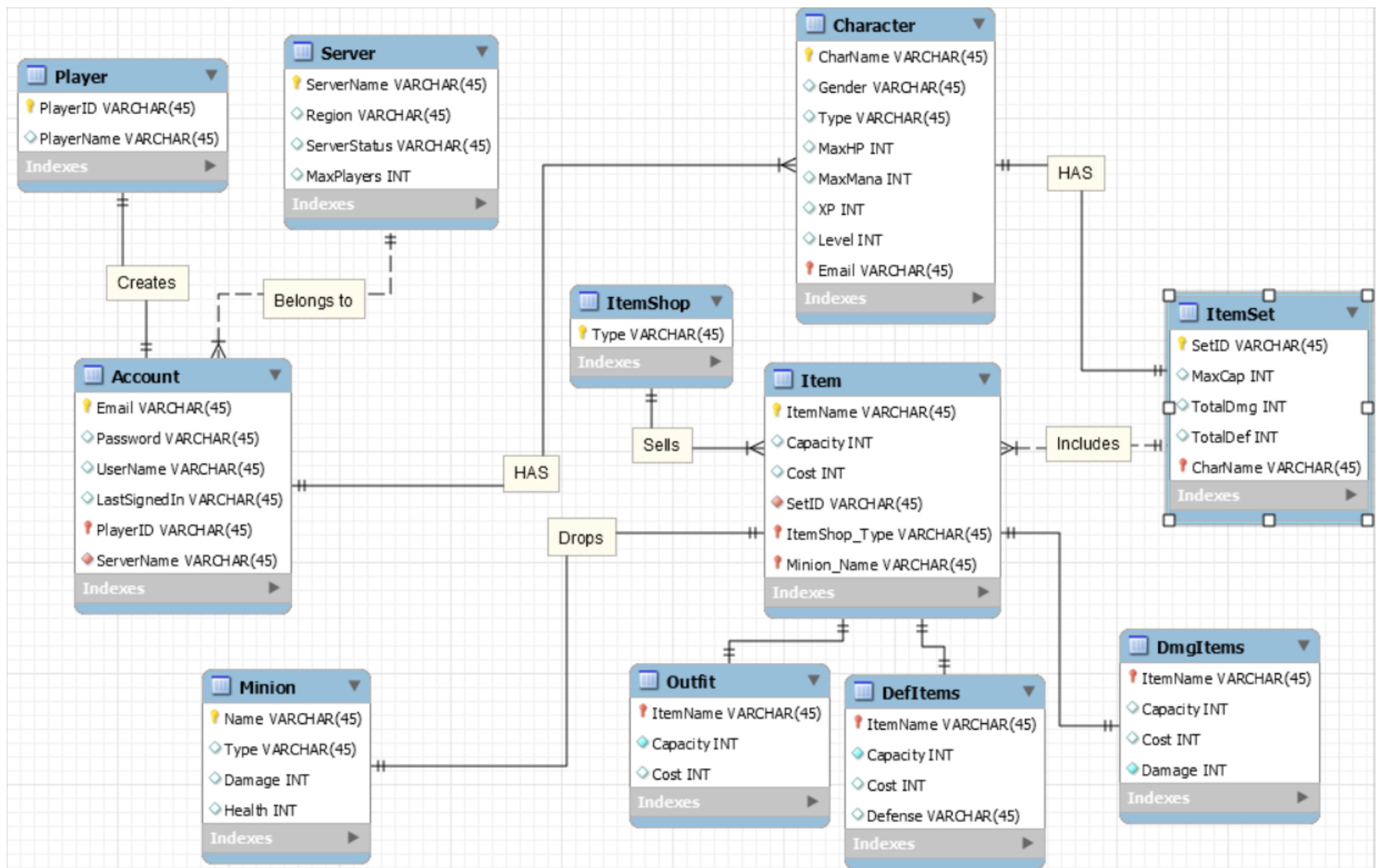The data required for the MMORPG GAME database are :-

1) Each player's ID and real name.

2) The date which the player creates his account on.

3) Each account's last sign in date, password, username, and email.

4) Each server name, region, max players can sign up on the server and server's status.

5) Each character that players have in there accounts and there name, type, level, experience points, max health and mana and gender.

6) The set of items each player carry, it's max number of items, total defense points, total defense points and it's ID.

7) every item the player can carry and either it's dropped from a minion or bought from a store

8) Each minion's name, health, damage dealt buy, type and number of coins dropped from it.

9) Every shop's type.

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2) EER diagram:

3) Relational model:

Player
- PlayerID VARCHAR(45)
- PlayerName VARCHAR(45)
- Indexes

Server
- ServerName VARCHAR(45)
- Region VARCHAR(45)
- ServerStatus VARCHAR(45)
- MaxPlayers INT
- Indexes

Character
- CharName VARCHAR(45)
- Gender VARCHAR(45)
- Type VARCHAR(45)
- MaxHP INT
- MaxMana INT
- XP INT
- Level INT
- Email VARCHAR(45)
- Indexes

Account
- Email VARCHAR(45)
- Password VARCHAR(45)
- UserName VARCHAR(45)
- LastSignedIn VARCHAR(45)
- PlayerID VARCHAR(45)
- ServerName VARCHAR(45)
- Indexes

ItemShop
- Type VARCHAR(45)
- Indexes

Item
- ItemName VARCHAR(45)
- Capacity INT
- Cost INT
- SetID VARCHAR(45)
- ItemShop_Type VARCHAR(45)
- Minion_Name VARCHAR(45)
- Indexes

ItemSet
- SetID VARCHAR(45)
- MaxCap INT
- TotalDmg INT
- TotalDef INT
- CharName VARCHAR(45)
- Indexes

Minion
- Name VARCHAR(45)
- Type VARCHAR(45)
- Damage INT
- Health INT
- Indexes

Outfit
- ItemName VARCHAR(45)
- Capacity INT
- Cost INT
- Indexes

DefItems
- ItemName VARCHAR(45)
- Capacity INT
- Cost INT
- Defense VARCHAR(45)
- Indexes

DmgItems
- ItemName VARCHAR(45)
- Capacity INT
- Cost INT
- Damage INT
- Indexes

Creates

Belongs to

HAS

Sells

Drops

Includes

HAS

4) Queries:

1) Retrieve all health of minion sort by health

health	Name
2000	Muji
2000	Tiger
2100	Spider
2500	Demon
4000	Penon
4350	Annie
6000	Syndra
6500	Ong
NULL	NULL

```sql
SELECT health, Name

FROM minion

ORDER BY health ;
```

2) Retrieve the Numbers of items that each minion drops

Name	count(i.ItemName)
Annie	3
Demon	3
Muji	4
Ong	2
Penon	3
Spider	1
Syndra	3
Tiger	3

```sql
SELECT m.Name , count(i.ItemName)

FROM minion m , item i

WHERE m.Name = i.minion_Name

GROUP BY m.name;
```

3) Retrieve name of player who has third char 'c'

PlayerName
Jack
Jacob
Lucas
Oscar

```sql
SELECT PlayerName

FROM Player

WHERE PlayerName like '__c%';
```

4) Retrieve all details of servers which takes more than 3000 player

ServerName	Region	ServerStatus	MaxPlayers
NorthAfrica	Africa	Maintenance	4000

```sql
SELECT *

FROM server

WHERE maxplayer > 3000
```

5) Retrieve totaldmg and totalDef of character whose name = 'Yasuo'

```sql
SELECT s.TotalDmg, s.TotalDef
FROM itemset s
WHERE s.CharName = 'Yasuo'
```

TotalDmg	TotalDef
900	700

6) Retrieve all details of items which have the lowest cost

```sql
SELECT *
FROM item
WHERE cost = ( SELECT min(cost)
                FROM item
        );
```

ItemName	Capacity	Cost	SetID	ItemType	Minion_Name
BlackOutfit	10	25000	W55	Outfit	Annie
BlueOutfit	10	25000	AA5	Outfit	Penon
GreenOutfit	10	25000	AA5	Outfit	Syndra
RedOutfit	10	25000	Q77	Outfit	Muji
WhiteOutfit	10	25000	D77	Outfit	Tiger
YellowOutfit	10	25000	D77	Outfit	Demon
NULL	NULL	NULL	NULL	NULL	NULL

7) Retrieve Item name, Minion name who drops an item which's capacity is between 5 and 15

```sql
SELECT m.name, i.itemName, i.capacity
FROM minion m , item i
WHERE m.name = i.minion_name AND i.capacity BETWEEN 5 AND 15;
```

name	itemName	capacity
Annie	BlackOutfit	10
Annie	Blade	15
Annie	Legs3	15
Demon	Boot	5
Demon	Vest2	10
Demon	YellowOutfit	10
Muji	RedOutfit	10
Muji	Vest3	15
Ong	Boot2	10

8) Retrieve email and the server which the user play on it

```sql
SELECT email , servername
FROM account ;
```

Email	Servername
Harry@yahoo.com	EUNordicEast
Jacob@gmail.com	EUWest
Henry@gmail.com	NorthAfrica
Oscar@gmail.com	NorthAfrica
Luca@gmail.com	NorthAmerica

9) Retrieve the item which has max dmg points and the item which has max def points

```sql
(SELECT defense AS "def/dmgP", itemname

FROM defitems

WHERE defense = (SELECT max(defense) FROM defitems)
)
UNION
(
SELECT damage, itemname

FROM dmgitems

WHERE damage = (SELECT max(damage) FROM dmgitems)
);
```

def/dmgP	itemname
70	Boot
900	Sword

10) Retrieve the character name who's wearing a black outfit

```sql
SELECT i.charname, u.itemname

FROM item u natural join itemset i

WHERE u.itemname = 'blackoutfit';
```

charname	itemname
Caitlyn	BlackOutfit

11) Retrieve all data of Account who's Player ID=H6

```sql
SELECT *

FROM account

WHERE account.PlayerID= 'H6';
```

12) retrieve the sum and average of the cost of the items that every character has

```sql
SELECT sum(i.cost) , avg(i.cost), s.charname
FROM item i NATRUAL JOIN itemset s
GROUP BY s.charname
```

sum(i.cost)	avg(i.cost)	charname
275000	68750.0000	Ashe
330000	82500.0000	Caitlyn
150000	50000.0000	Jax
535000	107000.0000	Rakan
620000	103333.3333	Yasuo

13) retrieve the number of players in each server

```sql
SELECT count(PlayerID), servername
FROM account
GROUP BY servername;
```

14) using view retrieve the minion name, type, health and damage along with the item name it drops, capacity, cost and type

```sql
CREATE view 'minitem' as
(
SELECT m.name, m.type, m.health, m.damage, i.itemname,
i.capacity, i.cost, i.itemtype
FROM minion m INNER JOIN item i ON name = minion_name
)
SELECT *
FROM minitem;
```

name	type	health	damage	itemname	capacity	cost	itemtype
Annie	Champion	4350	30	BlackOutfit	10	25000	Outfit
Annie	Champion	4350	30	Blade	15	250000	Weapon
Annie	Champion	4350	30	Legs3	15	100000	Shield
Demon	General	2500	45	Boot	5	55000	Shield
Demon	General	2500	45	Vest2	10	60000	Shield
Demon	General	2500	45	YellowOutfit	10	25000	Outfit
Muji	General	2000	20	Helmet3	20	100000	Shield
Muji	General	2000	20	RedOutfit	10	25000	Outfit
Muji	General	2000	20	Spear	20	200000	Weapon

15) use your view to retrieve the total item capacity that every minion drops

sum(capacity)	name
40	Annie
25	Demon
65	Muji
15	Ong
50	Penon
10	Spider
40	Syndra
40	Tiger

```sql
SELECT sum(capacity), name
FROM minitem
GROUP BY name ;
```

16) Change the cost of the item 'bow' to 175000

```sql
UPDATE items
SET cost = 175000
WHERE name = 'bow' ;
SELECT itemname, Cost
FROM item
WHERE itemname = 'bow';
```

itemname	Cost
Bow	175000