Q1 **1)**

MovieTitle, Director -> Producer

SPTitle, Author -> SPTitle, Author

SPTitle, Author, Scene# -> StoryLocation, FilmLocation

SPTitle, Author, Scene#, Take# -> Date, Time

ActorName -> Phone, Address, AgentName

SPTitle, Author, Scene#, ActorName -> appears-in

MovieTitle, Director -> MovieOf\_SPTitle, MovieOf\_Author

**2)**

MovieTitle,Director->Producer

SPTitle,Author,Scene#->StoryLocation

SPTitle,Author,Scene#->FilmLocation

SPTitle,Author,Scene#,Take#->Date

SPTitle,Author,Scene#,Take#->Time

ActorName->Phone

ActorName->Address

ActorName->AgentName

SPTitle,Author,Scene#,ActorName->appears-in

MovieTitle,Director->MovieOf\_SPTitle

MovieTitle,Director->MovieOf\_Author

**3)**

[MovieTitle,Director | Producer,MovieOf\_SPTitle,MovieOf\_Author]

[SPTitle,Author,Scene# | StoryLocation,FilmLocation]

[SPTitle,Author,Scene#,Take# | Date,Time]

[ActorName | Phone,Address,AgentName]

[SPTitle,Author,Scene#,ActorName | appears-in]Q2

**1)**

code ->bookTitle, publisher, date

songID -> songTitle, composer

code, songID -> length, page

userID -> password, userName, emailAddress

code, userID -> pdfFileName, pageOffset

**2)**

code->bookTitle

code->publisher

code->date

songID->songTitle

songID->composer

code,songID->length

code,songID->page

userID->password

userID->userName

userID->emailAddress

code,userID->pdfFileName

code,userID->pageOffset

**3)**

[code | bookTitle,publisher,date]

[songID | songTitle,composer]

[code,songID | length,page]

[userID | password,userName,emailAddress]

[code,userID | pdfFileName,pageOffset]

Q3 **1)**

stdnum -> email, name, city, strnum, street, postcode, area\_code, office\_code, station\_code

email -> stdnum, name, city, strnum, street, postcode, area\_code, office\_code, tation\_code

postcode -> city

area\_code, office\_code -> city

course\_section -> term

course\_num -> department\_name

period, room\_num, term -> course\_num, course\_name, course\_section

room\_num -> building

stdnum, course\_num, course\_section -> enrolled

stdnum, course\_num -> grade

**2)**

stdnum->email

stdnum->station\_code

email->stdnum

email->name

email->strnum

email->street

email->postcode

email->area\_code

email->office\_code

email->tation\_code

postcode->city

area\_code,office\_code->city

course\_section->term

course\_num->department\_name

period,room\_num,term->course\_num

period,room\_num,term->course\_name

period,room\_num,term->course\_section

room\_num->building

stdnum,course\_num,course\_section->enrolled

stdnum,course\_num->grade

**3)**

[stdnum | email,station\_code]

[email | stdnum,name,strnum,street,postcode,area\_code,office\_code,tation\_code]

[postcode | city]

[area\_code,office\_code | city]

[course\_num | department\_name]

[period,room\_num,term | course\_num,course\_name,course\_section]

[room\_num | building]

[stdnum,course\_num,course\_section | enrolled]

[stdnum,course\_num | grade]

[course\_section | term] //redundant

**Q4)** For context, this is for League of Legends: Teamfight Tactics.

A diagram of a computer

Description automatically generated

|  |  |
| --- | --- |
| **attribute** | **comment** |
| championID | Champion ID number |
| Champion\_name | Champion name |
| Champion\_ability | Champion has 1 ability to use when full |
| Champion\_ad | Attack damage stat for the champion, determins physical damage |
| Champion\_ap | Ability power stat for the champion, determines magic damage |
| Champion\_as | Attack speed stat for the champion |
| Champion\_hp | Health stat for the champion |
| Champion\_armor | Armor stat for the champion, reduces physical damage |
| Champion\_magic resist | Magic resist stat for the champion, reduces magic damage |
| Champion\_mana | Mana stat for the champion, needs mana to cast spells. |
| playerID | Player account ID |
| Player\_name | Name of the player, show to other players |
| Player\_health | how much health the player has, players deal damage to other players when all of opponent’s champions are dead. Champions do not directly damage players. When player health reaches 0, player loses the game |
| Player\_podium\_position | There are 8 players in a game, podium position is just what place you are in based on how much health you have. Highest HP player is 1st, dead players are last. Dead players are determined by how much negative health they have at time of death. |
| Player\_winrate | Tracked stat how much a player places first. |
| itemID | Item ID number |
| Item\_name | Name of item |
| Item\_type | 6 types of items: component, completed, radiant, artifact, cursed, special |
| Item\_AD | Attack damage stat of the item |
| Item\_AP | Ability power stat of the item |
| Item\_AS | Attack speed stat of the item |
| Item\_HP | Health stat of the item |
| Item\_Armor | Armor stat of the item |
| Item\_Magic Resist | Magic resist stat of the item |
| Item\_mana | Mana stat of the item |
| Item\_effect | The bonus effect of the item. |
| componentID | ID of an component for an item |
| Component\_name | Name of item component |
| Component\_type | 2 types of components: normal and special |
| Component\_AD | Attack damage stat of the item |
| Component\_AP | Ability power stat of the item |
| Component\_AS | Attack speed stat of the item |
| Component\_HP | Health stat of the item |
| Component\_Armor | Armor stat of the item |
| Component\_Magic Resist | Magic resist stat of the item |
| Component\_Mana | Mana stat of the item |
| classID | ID of the class for a champion |
| Class\_name | Name of the champion class |
| Class\_effect | Classes give effect to champions. For example, mage class champions get to cast their ability twice for each cast |
| Class\_maxAmount | The maximum breakpoint for the effect bonus of a class. For example, having more than 7 mages will not give any bonuses |
| originID | ID of the origin for a champion |
| Origin\_name | Name of the origin of a champion, they are like factions |
| Origin\_effect | Origins give effects to champions, similar to classes |
| Origin\_maxAmount | Same as Class\_maxAmount |
| Origin\_boolUnique | Certain champions have a unique origin, which only that one specific champion has. True if its unique, False otherwise |
| augmentID | ID of an augment a player can get |
| Augment\_name | Name of the augment |
| Augment\_effect | Effect of the augment. Augments are like powerups and strengthen the player or allow the player to buff up their champions. |
| teamName | We will store different player teamcomps with a name, generally based off of the 2 highest values of classes/origins. For example: Mage Vanguard (class class), Noxian Fighters(origin class) |
| Team\_Composition winrate | Winrate of a team compoisition, regardless of which player plays it |

**2)**

See table for most of the constraints and assumptions

Additionally:

A champion must have 1-2 origins

A champion must have 0-2 classes

A champion can have 0-3 items

Each player will have 1 team composition, the teams can be the exact same.

Each player will have 3 augments, multiple players can have the same augment

Champions are identified by their ID, there are cases of champions having the same name but different ID, this would be a case of a champion having two variations.

I don’t want to do this anymore.

**3)**

Please free me.

championID -> Champion\_name, Champion\_ability, etc

classID -> Class\_name, Class\_effect, Class\_max amount

originID -> Origin\_name, Origin\_effect, etc.

itemID -> Item\_name, etc.

componentD -> Component\_name, etc.

augmentID -> Augment\_name, Augment\_effect

playerID -> Player\_name, Player\_health, Player\_podium\_position, Player\_winrate

playerID, teamName -> Team\_Composition winrate

**4)** Don’t do this.

championID->Champion\_name

championID->Champion\_ability

championID->Champion\_etc

…

classID->Class\_name

classID->Class\_effect

classID->Class\_max

classID->amount

originID->Origin\_name

originID->Origin\_effect

originID->Origin\_etc

…

itemID->Item\_name

itemID->Item\_etc

…

componentD->Component\_name

componentD->Component\_etc.

…

augmentID->Augment\_name

augmentID->Augment\_effect

playerID->Player\_name

playerID->Player\_health

playerID->Player\_podium\_position

playerID->Player\_winrate

playerID,teamName->Team\_Composition

playerID,teamName->winrate

**5)** hahaha

[championID | Champion\_name,Champion\_ability,Champion\_etc]

[classID | Class\_name,Class\_effect,Class\_max,amount]

[originID | Origin\_name,Origin\_effect,Origin\_etc.]

[itemID | Item\_name,Item\_etc.]

[componentD | Component\_name,Component\_etc.]

[augmentID | Augment\_name,Augment\_effect]

[playerID | Player\_name,Player\_health,Player\_podium\_position,Player\_winrate]

[playerID,teamName | Team\_Composition,winrate]