```
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#, Actor Name -> 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]

```
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
```

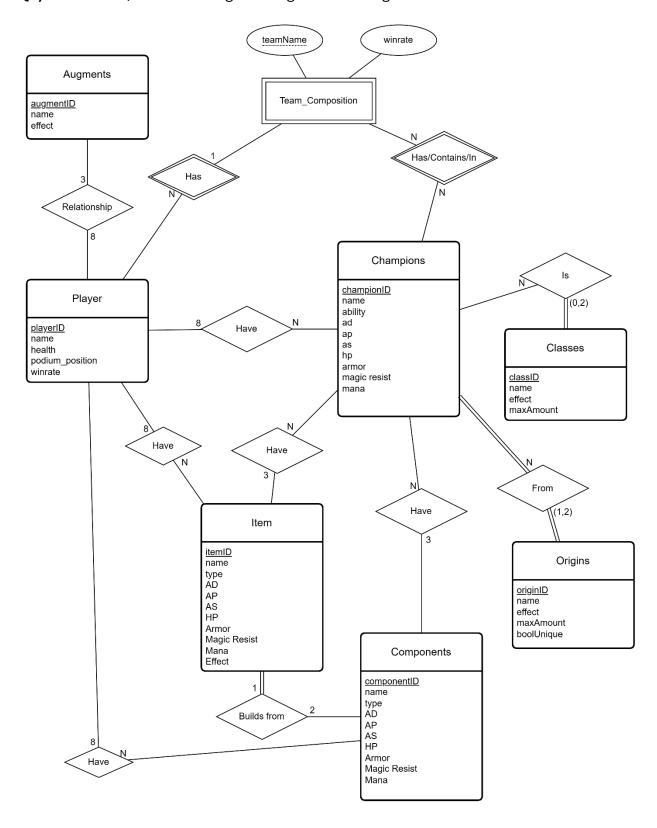
Q3

1)

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.



| 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 | Magic resist stat of the item |
| Resist | |
| 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 of a team composition, regardless of which player |
| winrate | 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]
```