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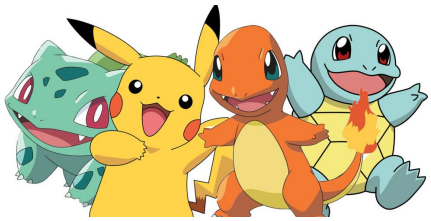


ECE464: Databases

Pokemon Games/TV Database

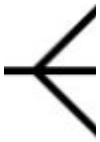
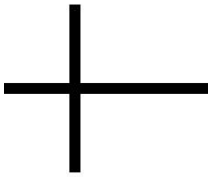
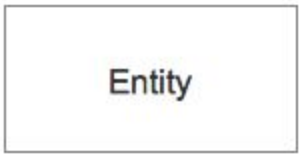
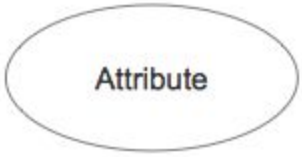
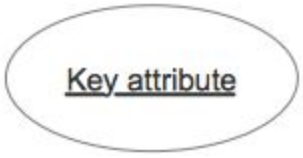
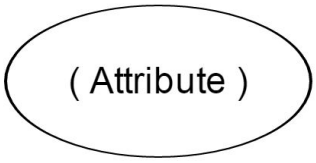
What are Pokemon?

Pokemon are fictional creatures featured in the eponymous game series and animated TV series. Pokemon species are characterized by a set of base stats (hp, attack, defense, special attack, special defense and speed), by a type combination and by a set of abilities. Pokemon also have a set of moves they can learn (either from a technical machine (TM), a move tutor or from reaching the appropriate in-game level). Pokemon moves are characterized by their type, their strength, their accuracy, and their category (they can be either a physical move, a special move or a status move). There are currently 18 different types. Pokemon can have either one or two types while moves have exactly one type. When a damaging move is used on a pokemon a modifier is applied on the on amount of damage dealt depending on the relation between the damaging move type and the type combination of the attacked pokemon.

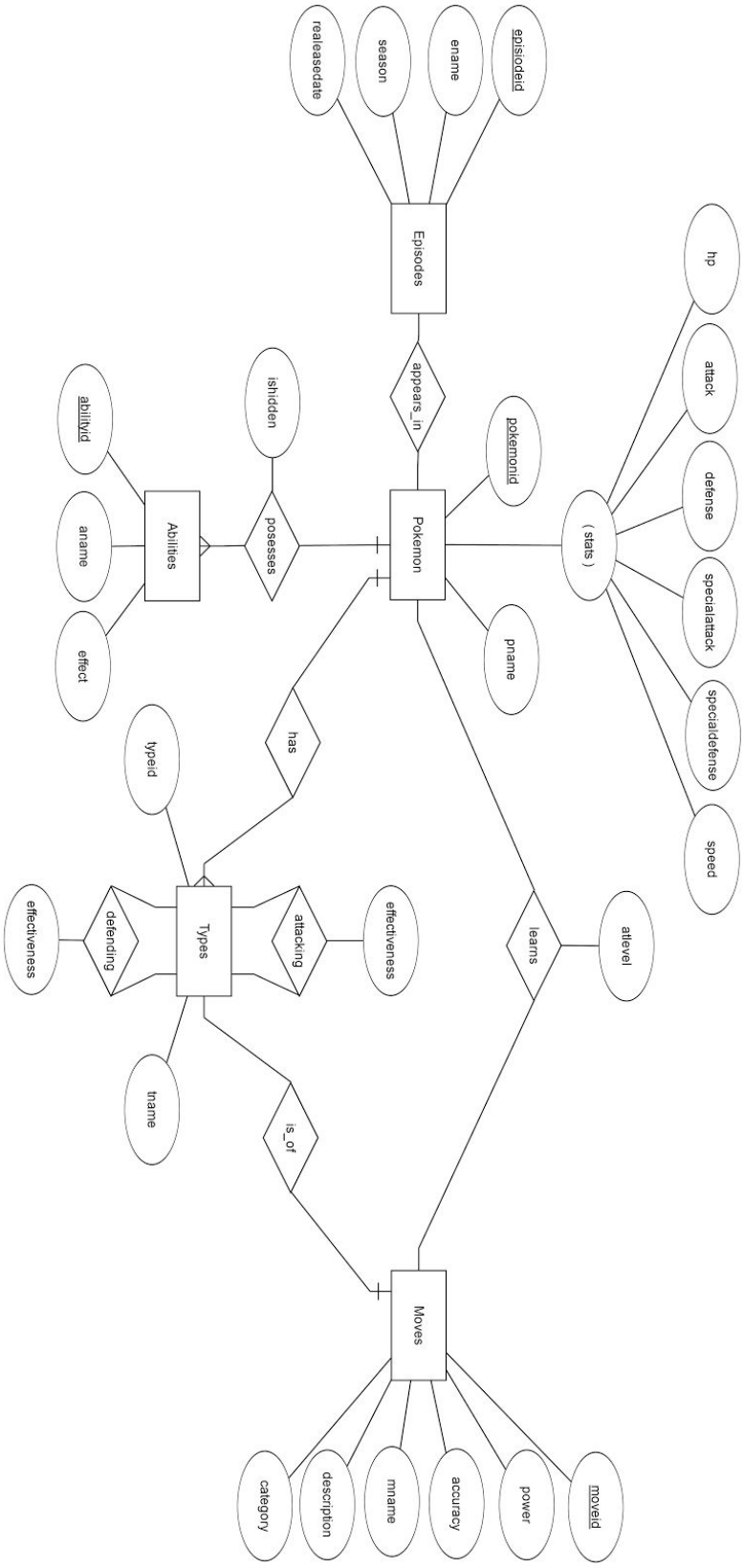
Changes from previous ER Diagrams

- Capitalized entities names, "_" between relation names
- Made entities plural
- Standardized names
- Switched the side on which the "many" symbol appeared
- Added some new attributes to the moves entity set
- Made it so that entity sets only have one primary key

Legend for the ER diagram

	Indicates that the entity can have one or more of this relationship
	Indicates a total participation constraint
	Represents an entity set
	Represents an attribute
	Represents a relationship
	Represents a key attribute
	Composite attribute (a set of attributes)

ER Diagrams


realeasedate
season
ename
episodeid
Episodes
appears_in
ishidden
abilityid
aname
effect
Abilities
possesses
pokemonid
Pokemon
pname
hp
attack
defense
specialattack
specialdefense
speed
(stats)
has
typeid
effectiveness
defending
Types
attacking
effectiveness
learns
atlevel
tname
is_of
Moves
category
description
mname
accuracy
power
moveid

SCHEMAS

entities:

Pokemon(pokemonid: integer, pname: string, hp: integer, attack: integer, defense: integer, specialattack: integer, specialdefense: integer, speed: integer)

Episodes(episodeid: integer, ename: string, season: integer, releasedate: date)

Types(typeid: integer, tname: string)

Moves(moveid: integer, power: integer, accuracy: integer, mname: string, description: string, category: integer)

Abilities(abilityid: integer, aname: string, effect: string)

Relations:

appears_in(pokemonid: integer, episodeid: integer)

learns(pokemonid: integer, moveid: integer, atlevel: integer)

possesses(pokemonid: integer, abilityid: integer)

has(pokemonid: integer, typeid: integer)

is_of(moveid: integer, typeid: integer)

attacking(typeid1: integer, typeid2: integer, effectiveness: float)

defending(typeid1: integer, typeid2: integer, effectiveness: float)

SQL COMMANDS

Entities:

```
CREATE TABLE Pokemon     (
                         pokemonid INTEGER,
                         pname CHAR(20),
                         hp INTEGER,
                         attack INTEGER,
                         defense INTEGER,
                         specialattack INTEGER,
                         specialdefense INTEGER,
                         speed INTEGER,
                         PRIMARY KEY(pname)
                         );

CREATE TABLE Episodes    (
                         episodeid INTEGER,
                         ename CHAR(150),
                         season INTEGER,
                         releasedate DATE,
                         PRIMARY KEY(episodeid)
                         );

CREATE TABLE Types       (
                         typeid INTEGER,
                         tname CHAR(10),
                         PRIMARY KEY(typeid)
                         );

CREATE TABLE Moves       (
                         moveid INTEGER,
                         mname CHAR(20),
                         description CHAR(200),
                         category INTEGER,
                         power INTEGER,
                         accuracy INTEGER,
                         PRIMARY KEY (moveid)
                         );

CREATE TABLE Abilities   (
                         abilityid INTEGER,
                         aname CHAR(20),
                         effect CHAR(200),
                         PRIMARY KEY (abilityid)
                         );
```

Relations:

```
CREATE TABLE appears_in  (
                         pokemonid INTEGER,
                         episodeid INTEGER,
                         PRIMARY KEY(pokemonid, episodeid)
                         FOREIGN KEY (pokemonid) REFERENCES Pokemon,
                         FOREIGN KEY (episodeid) REFERENCES Episodes
                         );

CREATE TABLE learns      (
                         pokemonid INTEGER,
                         moveid INTEGER,
                         atlevel INTEGER,
                         PRIMARY KEY (pokemonid, moveid)
                         FOREIGN KEY (pokemonid) REFERENCES Pokemon,
                         FOREIGN KEY (moveid) REFERENCES Moves
                         );

CREATE TABLE possesses   (
                         pokemonid INTEGER,
                         abilityid INTEGER,
                         PRIMARY KEY (pokemonid, abilityid)
                         FOREIGN KEY (pokemonid) REFERENCES Pokemon,
                         FOREIGN KEY (abilityid) REFERENCES Moves
                         );

CREATE TABLE has         (
                         pokemonid INTEGER,
                         typeid INTEGER,
                         PRIMARY KEY(pokemonid, typeid)
                         FOREIGN KEY (pokemonid) REFERENCES Pokemon,
                         FOREIGN KEY (typeid) REFERENCES Types
                         );

CREATE TABLE is_of       (
                         moveid INTEGER,
                         typeid INTEGER,
                         effectiveness REAL,
                         PRIMARY KEY(moveid, typeid),
                         FOREIGN KEY (moveid) REFERENCES Moves,
                         FOREIGN KEY (typeid) REFERENCES Types
                         );

CREATE TABLE attacking   (
                         typeid1 INTEGER,
                         typeid2 INTEGER,
                         PRIMARY KEY(typeid1, typeid2)
```

```
                        FOREIGN KEY (typeid1) REFERENCES Types(typeid),
                        FOREIGN KEY (typeid2) REFERENCES Types(typeid)
                        );

CREATE TABLE defending  (
                        typeid1 INTEGER,
                        typeid2 INTEGER,
                        effectiveness REAL,
                        PRIMARY KEY(typeid1, typeid2),
                        FOREIGN KEY (typeid1) REFERENCES Types(typeid),
                        FOREIGN KEY (typeid2) REFERENCES Types(typeid)
                        );
```