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Lab 2

Part 1

AP on postgres@PostgreSQL 9.6

```
1  select * from customers;
```

Data Output | Explain | Messages | History

	aid character	name text	city text	commissi... numeric ...
	a01	Smith	New York	6.5
	a02	Jones	Newark	6
	a03	Perry	Tokyo	7
	a04	Grey	New York	6
	a05	Otasi	Duluth	5
	a06	Smith	Dallas	5
	a08	Bond	London	7.07

AP on postgres@PostgreSQL 9.6

```
1  select * from agents;
```

Data Output | Explain | Messages | History

	aid character	name text	city text	commissi... numeric ...
	a01	Smith	New York	6.5
	a02	Jones	Newark	6
	a03	Perry	Tokyo	7
	a04	Grey	New York	6
	a05	Otasi	Duluth	5
	a06	Smith	Dallas	5
	a08	Bond	London	7.07

AP on postgres@PostgreSQL 9.6

```
1  select * from products;
```

Data Output | Explain | Messages | History

	aid character	name text	city text	commissi... numeric ...
	a01	Smith	New York	6.5
	a02	Jones	Newark	6
	a03	Perry	Tokyo	7
	a04	Grey	New York	6
	a05	Otasi	Duluth	5
	a06	Smith	Dallas	5
	a08	Bond	London	7.07

AP on postgres@PostgreSQL 9.6

```
1  select * from orders;
```

Data Output | Explain | Messages | History

	aid character	name text	city text	commissi... numeric ...
	a01	Smith	New York	6.5
	a02	Jones	Newark	6
	a03	Perry	Tokyo	7
	a04	Grey	New York	6
	a05	Otasi	Duluth	5
	a06	Smith	Dallas	5
	a08	Bond	London	7.07

Part 2

A Candidate Key is a column or set of columns that serves as a unique key for a database with minimal columns. A Primary Key is a column or set of columns that serves as a unique key for a record in a database. A Foreign Key is the value of one table that must match the value of another table's primary key or have a null value.

Part 3

Suppose that we have a database to catalog your vast video game collection. If we are only using a single table, a good name for it could be named "GameInventory." Columns that would make up the table include: "gameID"(integer), "titleName" (string), "developer"(string), "publisher" (string), "genre" (string) , "realeaseYear" (string), "system" (string), "esrb" (string), and "personalScore" (integer). Nullable fields could possible include "publisher", as some games could be self published and "personalScore" because you may not have played the game yet.

Part 4

The "first normal form" rule states that: a column of a table must contain indivisible values and are not groups of repeating columns. The table must not have sub columns, and each set of related data must have a primary key. Using the mentioned "GameInventory" table as an example, it could the column "genre" with inserted values of "horror, adventure and survival". The reason the mentioned conventions are in place is to prevent the table not being a table, to prevent duplication of columns, and to allow to sort the data.

The “access rows by content only” rule states that you cannot query a table by its row number. For example, you cannot query the “GameInventoy” table using the statement, “select third row from GameInventory;”. This is due the fact that there is a meaningless order of the rows as they can be sorted in many possible ways.

The “all rows must be unique” rule states that all rows in a table must be unique. Therefore, given any two rows in a table, they cannot have the exact same data values in each field. Otherwise, there will be duplicate data which cause a host of problems such not knowing which entry of a pair of duplicated rows is the significant one. This duplication also questions the integrity of the database itself.