BIS CHEAT SHEET

**SQL:**

SELECT

FROM

WHERE

GROUP BY

HAVING

ORDER BY

AS

INNER JOIN

ON

Alternative Primary Key = 2 primary keys = composite key = candidate key

Transitive Dependency = when a field relies on another one that isn’t the primary key.

EX: Sate & Country.

Designer Key = Surrogate Key = Key that’s only used in one company

Levels of Cardinality =

* 1 to 1
* 1 to many
* Many to many (intersection table)

1. What is a foreign key?

A data field in a table that is the primary key of another table.

1. What is not a benefit of normalizing Data:
   1. Reduced data redundancy
   2. Higher data accuracy
   3. Faster processing speed
   4. Improved data integrability (ability to integrate data)
2. You are the head registrar for Emory University. The FBI and INS has just sent you a file containing the name, country of origin and INS number for individuals that they have down as being students at Emory. You are to provide them with a list of students of those students who are not currently enrolled in classes at Emory University. What type of query would you write?

SELECT \* FROM Students

WHERE Enrolled = Active

1. Briefly state two key advantages of normalizing data into Third Normal Form.

Reduces Data redundancy

No more transitive partial dependency

Improves performance of database because less data involved

Cascading Updates, Deletes, and keep referential integrity

1. What are two primary advantages of Hierarchical databases over flat file systems.

Flat files don’t have data integrity

Faster Access to information

Less redundancy

Hierarchy database = tree diagram

Flat Files = Excel

1. Under what circumstances are flat file systems still used today and preferred?

Theyre still used as .csv files. If I want to take the results of a survey, I can look at all the fields in one flat file rather than look at database tables. And use them on programs like R to easily create data analysis. Flat files are to store data that are not related.

1. Descriptions of table fields and their field types are called what?

MetaData

1. \*In the example below using the tables shown which field is a foreign key?

Car Table:  
VehicleIdentificationNumber, Manufacturer, Make, Model#, Cylinders, Engine Size, Color Code

Color Table  
Color Code, Color Description

* 1. Color Code (in Car Table)

Explain: Color code is the primary key of the color table and a data field of the car table.

1. \*What are the benefits of relational databases over that of hierarchical databases?

There’s less data redundancy.

Multiple ways to look at data from the same file.

‘Child’ can have more than one parent

Data can be independent

You don’t have to follow a tree diagram to find something, you can look it up.

Easier to make changes, deletes, and search for data.

1. What relational database capability should occasionaly be turned on and then after the action is preformed be immediately turned off?

Cascading updates

1. A many to many relationship implies what can be created in a database?

An intersection Table

1. A candidate field that contains more than one field is also a

None of the Above

1. Composite key = compound key
2. What does the primary key of an intersection table consist of?

The primary key of 2 other tables.

1. Surrogate keys are used when:

It takes at least 4 long text fields to uniquely identify a record

Two moderate length (25-30 character) fields can uniquely identify each record table

Boyce-Codd Normal form is after 3rd Normal Form

1. What is true about a surrogate key?
2. Usually are autonumber numeric fields
3. Used when the real true primary key consists of many fields or consists of confidential in nature
4. Are usually stored as numeric integer field when a foreign key in another table