

# Homework 2: Database Application

## Problem Set #2

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### P1

What is the difference between a view and a table in sql?

A view consists of rows and columns just like a table. It is like a virtual table. The difference between a view and a table is that views are definitions built on top of other tables(or views), and do not contain real data. If real data changes in the underlying table, the same change is reflected in the view.

### P2

How does a GROUP BY statement in SQL work?

In SQL, the GROUP BY statement is used to arrange identical data into groups. For example, if a particular column has same values in different rows then it will arrange these rows in a group.

What's more, GROUP BY clause is used with the SELECT statement.

In the query, GROUP BY clause is placed after the WHERE clause.

In the query, GROUP BY clause is placed before ORDER BY clause if used any.

### P3

What is HTTP and how do HTTP requests work?

HTTP is HyperText Transfer Protocol. HTTP is the underlying protocol used by the World Wide Web and this protocol defines how messages are formatted and transmitted, and what actions Web servers and browsers should take in response to various commands.

As a request-response protocol, HTTP gives users a way to interact with web resources such as

HTML files by transmitting hypertext messages between clients and servers. HTTP clients generally use Transmission Control Protocol connections to communicate with servers. There are many specific request methods: GET, HEAD, POST, PUT, DELETE, TRACE, OPTIONS, CONNECT, PATCH.

## P4

What are the characteristics of a RESTful API?

A RESTful API is an application program interface (API) that uses HTTP requests to GET, PUT, POST, and DELETE data.

And it supports JSON and XML;

It is stateless;

It is a simplified and lightweight web service compared to SOAP;

Each change in the architecture of the RESTful API should be reflected in its documentation;

It allows different systems to communicate and exchange data in a simple way.

## P5

Given the two tables Birth Info and Astrological Info, what is the result of the following queries in table form.

a:

name	birth_month	astrological sign
Don	September	Virgo
Meghna	June	Gemini
Aly	January	Aquarius
Ara	September	Virgo
Kirit	May	NULL

b:

name	birth_month	astrological sign
Don	September	Virgo
Meghna	June	Gemini
Aly	January	Aquarius
Ara	September	Virgo
Kirit	May	NULL

c:

name	birth_month	astrological sign
Don	September	Virgo
Meghna	June	Gemini
Aly	January	Aquarius
Ara	September	Virgo

d:

name	birth_month	astrological sign
Don	September	Virgo
Ara	September	Virgo
Meghna	June	Gemini
Aly	January	Aquarius

## P6

What do these HTTP response codes mean:

- 200: OK
- 201: Created
- 400: Bad Request
- 401: Unauthorized
- 300: Multiple Choice
- 403: Forbidden
- 404: Not Found
- 500: Internal Server Error