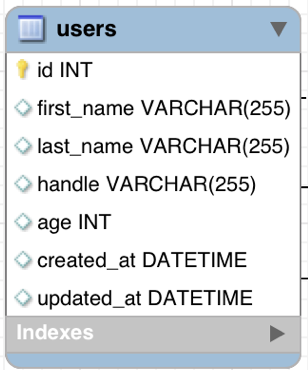
**MySQL Worksheet (please complete and turn this in before you leave on Friday)**

Your Name: **Sahar Ahmad Murrar**

Understanding how to write basic SQL queries is extremely important.  Please find someone else in your cohort to work on the following challenges.  Please write down the appropriate SQL query on this worksheet and turn this in (before the end of the day).



**1. Basic 4 Queries**

For the ERD on the left, how would you:

1. Get all users whose age is greater than 35?

**Solution**:

Select concat(users.first\_name, “ “, users.last\_name) as user\_name

From users where age > 35

2. Insert a new user whose first name is ‘Jonathan’ and last name is ‘Smith’?  Have created\_at be the current time.

**Solution**:

insert into users(first\_name, last\_name) values (Jonathan’, Smith’);

3. Delete all users whose user records were created after August 1st 2010?

**Solution**:

DELETE from users where users.created\_at > ‘2010/08/01’

4. Update user record (id: 3) so that first\_name is ‘Coding’ and last name ‘Dojo’.  Also update it so that the age is set as 7.  Have updated\_at automatically update to the current time.

**Solution:**

update users set first\_name = "Coding", last\_name = ‘Dojo’, age = 7, updated\_at = Now() where id=3;

*Once you do the four queries above, please check with at least one or two other groups before working on the following assignments.*

**2. MySQL Countries**

1. What query would you run to get all the countries that speak Slovene? Your query should return the name of the country, language and language percentage. Your query should arrange the result by language percentage in descending order. (1)

**Solution:**

select language, percentage, countries.name FROM languages

INNER JOIN countries ON countries.id = languages.country\_id

where language ="Slovene"

ORDER BY percentage DESC;

2. What query would you run to display the total number of cities for each country? Your query should return the name of the country and the total number of cities. Your query should arrange the result by the number of cities in descending order. (3)

**Solution:**

select countries.name as country, count(countries.id) as total\_cities FROM cities

INNER JOIN countries ON countries.id = cities.country\_id

group by countries.id

ORDER BY count(countries.id) DESC;

Page 2 -  Your Name: **Sahar Ahmad Murrar**

3. What query would you run to get all the cities in Mexico with a population of greater than 500,000? Your query should arrange the result by population in descending order. (1)

**Solution:**

select cities.name as country, cities.population, countries.name FROM cities

JOIN countries ON countries.id = cities.country\_id

where countries.name = "Mexico" and cities.population > 500000

order by population Desc;

4. What query would you run to get all languages in each country with a percentage greater than 89%? Your query should arrange the result by percentage in descending order. (1)

**Solution:**

select countries.name, language, percentage FROM languages

INNER JOIN countries ON countries.id = languages.country\_id

where percentage > 89

order by languages.percentage Desc;

5. What query would you run to get all the countries with Surface Area below 501 and Population greater than 100,000? (2)

**Solution:**

select countries.name, countries.population, countries.surface\_area from countries

where surface\_area < 501 and population > 100000;

6. What query would you run to get countries with only Constitutional Monarchy with a capital greater than 200 and a life expectancy greater than 75 years? (1)

**Solution:**

select countries.name as country, government\_form, countries.capital, countries.life\_expectancy from countries

where countries.government\_form="Constitutional Monarchy"

and countries.capital > 200 and countries.life\_expectancy >75;

7. What query would you run to get all the cities of Argentina inside the Buenos Aires district and have the population greater than 500, 000? The query should return the Country Name, City Name, District and Population. (2)

**Solution:**

select countries.name as country, cities.name as city, cities.district, cities.population FROM cities

INNER JOIN countries ON countries.id = cities.country\_id

where countries.name="Argentina" and cities.district="Buenos Aires" and cities.population > 500000;

8. What query would you run to summarize the number of countries in each region? The query should display the name of the region and the number of countries. Also, the query should arrange the result by the number of countries in descending order. (2)

**Solution:**

select countries.region, count(countries.region) from countries

group by countries.region

ORDER BY count(countries.region) DESC;

**3. Sakila SQL query assignment**

Page 3 -  Your Name: **Sahar Ahmad Murrar**

1. What query would you run to get all the customers inside city\_id = 312? Your query should return customer first name, last name, email, and address.

**Solution:**

select city.city\_id,customer.first\_name, customer.last\_name, customer.email, address.address from customer

INNER JOIN address ON address.address\_id = customer.address\_id

inner join city on address.city\_id = city.city\_id

where city.city\_id = 312;

2. What query would you run to get all comedy films? Your query should return film title, description, release year, rating, special features, and genre (category).

**Solution:**

select film.title, film.description, film.release\_year, film.rating, film.special\_features, category.name as genre

from film

INNER join film\_category on film\_category.film\_id = film.film\_id

inner join category on film\_category.category\_id = category.category\_id

where category.name = "Comedy"

3. What query would you run to get all the films joined by actor\_id=5? Your query should return the actor id, actor name, film title, description, and release year.

**Solution:**

select actor.actor\_id, concat(actor.first\_name, " " ,actor.last\_name) as actor\_name, film.title, film.description, film.release\_year

from film

inner join film\_actor on film\_actor.film\_id= film.film\_id

inner join actor ON actor.actor\_id = film\_actor.actor\_id

where actor.actor\_id = 5

4. What query would you run to get all the customers in store\_id = 1 and inside these cities (1, 42, 312 and 459)? Your query should return customer first name, last name, email, and address.

**Solution:**

select customer.first\_name, customer.last\_name, customer.email, address.address, customer.store\_id, address.city\_id from customer

inner join address on address.address\_id = customer.address\_id

where customer.store\_id = 1 and address.city\_id in (1, 42 , 312 , 459)

5. What query would you run to get all the films with a "rating = G" and "special feature = behind the scenes", joined by actor\_id = 15? Your query should return the film title, description, release year, rating, and special feature. Hint: You may use LIKE function in getting the 'behind the scenes' part.

**Solution:**

select film.title, film.description, film.release\_year, film.special\_features, film\_actor.actor\_id, film.rating from film

join film\_actor on film\_actor.film\_id = film.film\_id

where film\_actor.actor\_id = 15 and film.rating = 'G' and film.special\_features LIKE '%behind the scenes%'

6. What query would you run to get all the actors that joined in the film\_id = 369? Your query should return the film\_id, title, actor\_id, and actor\_name.  
**Solution:**

select film.film\_id, film.title, actor.actor\_id, concat(actor.first\_name, " " ,actor.last\_name) as actor\_name from film

inner join film\_actor on film\_actor.film\_id= film.film\_id

inner join actor on actor.actor\_id = film\_actor.actor\_id

where film.film\_id= 369

Page 4 -  Your Name: **Sahar Ahmad Murrar**

7. What query would you run to get all drama films with a rental rate of 2.99? Your query should return film title, description, release year, rating, special features, and genre (category).

**Solution:**

select film.title, film.description, film.release\_year, film.rating, film.special\_features, film.rental\_rate, category.name as genre

from film

INNER join film\_category on film\_category.film\_id = film.film\_id

inner join category on category.category\_id = film\_category.category\_id

where category.name = "Drama" and film.rental\_rate = 2.99

8. What query would you run to get all the action films which are joined by SANDRA KILMER? Your query should return film title, description, release year, rating, special features, genre (category), and actor's first name and last name.

**Solution:**

select film.title, film.description, film.release\_year, film.rating, film.special\_features, category.name as genre, concat(actor.first\_name, " " ,actor.last\_name) as actor\_name

from film

INNER join film\_category on film\_category.film\_id = film.film\_id

inner join category on category.category\_id = film\_category.category\_id

join film\_actor on film\_actor.film\_id = film.film\_id

inner join actor on actor.actor\_id = film\_actor.actor\_id

where actor.first\_name = "SANDRA" and actor.last\_name = "KILMER" and category.name = "action"

**4. Lead Gen Business**

1. What query would you run to get the total revenue for March of 2012?

**Solution:**

select monthname(billing.charged\_datetime) as Month, sum(billing.amount) as Total\_Revenue from billing

where billing.charged\_datetime > '2012/02/28' and billing.charged\_datetime < '2012/04/01'

2. What query would you run to get total revenue collected from the client with an id of 2?

**Solution:**

select billing.client\_id , sum(billing.amount) as Total\_Revenue from billing

where billing.client\_id = 2

3. What query would you run to get all the sites that client=10 owns?

**Solution:**

select sites.domain\_name as website, clients.client\_id from clients

join sites on sites.client\_id = clients.client\_id

where clients.client\_id = 10

4. What query would you run to get total # of sites created per month per year for the client with an id of 1? What about for client=20?

**Solution-A (client-id=1):**

select sites.client\_id,count(sites.domain\_name) as Total\_sites, monthname(sites.created\_datetime) as Month, year(sites.created\_datetime) as Year from sites

where sites.client\_id = 1

group by monthname(sites.created\_datetime), year(sites.created\_datetime)

Page 5 -  Your Name: **Sahar Ahmad Murrar**

**Solution-B (client-id=20):**

select sites.client\_id,count(sites.domain\_name) as Total\_sites, monthname(sites.created\_datetime) as Month, year(sites.created\_datetime) as Year from sites

where sites.client\_id = 20

group by monthname(sites.created\_datetime), year(sites.created\_datetime)

5. What query would you run to get the total # of leads generated for each of the sites between January 1, 2011 to February 15, 2011?

**Solution:**

select leads.site\_id, count(leads.leads\_id) as total\_leads, sites.domain\_name as website, leads.registered\_datetime from leads

join sites on sites.site\_id = leads.site\_id

where leads.registered\_datetime >= '2011/01/01' and leads.registered\_datetime <= '2011/02/15'

group by leads.leads\_id

6. What query would you run to get a list of client names and the total # of leads we've generated for each of our clients between January 1, 2011 to December 31, 2011?

**Solution:**

select concat(clients.first\_name, " ", clients.last\_name) as client\_name, count(leads.leads\_id) as total\_leads, leads.registered\_datetime

from clients

join sites on sites.client\_id = clients.client\_id

join leads on leads.site\_id = sites.site\_id

where leads.registered\_datetime >= '2011/01/01' and leads.registered\_datetime < '2011/12/31'

group by clients.client\_id

7. What query would you run to get a list of client names and the total # of leads we've generated for each client each month between months 1 - 6 of Year 2011?

**Solution:**

select concat(clients.first\_name, " ", clients.last\_name) as client\_name, count(leads.leads\_id) as total\_leads, monthname(leads.registered\_datetime) as Month, year(leads.registered\_datetime) as Year

from clients

join sites on sites.client\_id = clients.client\_id

join leads on leads.site\_id = sites.site\_id

where leads.registered\_datetime >= '2011/01/01' and leads.registered\_datetime < '2011/07/31'

group by clients.client\_id ,monthname(leads.registered\_datetime)

8. What query would you run to get a list of client names and the total # of leads we've generated for each of our clients' sites between January 1, 2011 to December 31, 2011? Order this query by client id.  Come up with a second query that shows all the clients, the site name(s), and the total number of leads generated from each site for all time.

**Solution - A:**

select concat(clients.first\_name, " ", clients.last\_name) as client\_name, sites.domain\_name as website, count(leads.leads\_id) as total\_leads, leads.registered\_datetime

from clients

join sites on sites.client\_id = clients.client\_id

join leads on leads.site\_id = sites.site\_id

Page 6 -  Your Name: **Sahar Ahmad Murrar**

where leads.registered\_datetime >= '2011/01/01' and leads.registered\_datetime <= '2011/12/31'

group by sites.domain\_name

order by clients.client\_id , sites.domain\_name

**Solution - B:**

select concat(clients.first\_name, " ", clients.last\_name) as client\_name, sites.domain\_name as website, count(leads.leads\_id) as total\_leads, sites.created\_datetime

from clients

join sites on sites.client\_id = clients.client\_id

join leads on leads.site\_id = sites.site\_id

group by sites.domain\_name

order by clients.client\_id , sites.domain\_name

9. Write a single query that retrieves total revenue collected from each client for each month of the year. Order it by client id.

**Solution - A:**

select concat(clients.first\_name, " ", clients.last\_name) as client\_name, sum(billing.amount) as Total\_Revenue, month(billing.charged\_datetime) as Month, year(billing.charged\_datetime) as Year

from billing

join clients on clients.client\_id = billing.client\_id

group by clients.client\_id, month(billing.charged\_datetime), year(billing.charged\_datetime)

order by clients.client\_id ASC, billing.charged\_datetime

**Solution - B:**

select concat(clients.first\_name, " ", clients.last\_name) as client\_name, sum(billing.amount) as Total\_Revenue, monthname(billing.charged\_datetime) as Month, year(billing.charged\_datetime) as Year

from billing

join clients on clients.client\_id = billing.client\_id

group by clients.client\_id, monthname(billing.charged\_datetime), year(billing.charged\_datetime)

order by clients.client\_id, billing.charged\_datetime

10. Write a single query that retrieves all the sites that each client owns. Group the results so that each row shows a new client. It will become clearer when you add a new field called 'sites' that has all the sites that the client owns. (HINT: use GROUP\_CONCAT)

**Solution:**

select concat(clients.first\_name, " ", clients.last\_name) as client\_name, GROUP\_CONCAT(DISTINCT sites.domain\_name SEPARATOR ' / ') as sites

from clients

left join sites on sites.client\_id = clients.client\_id

group by clients.client\_id