Hoi Wan Louis

Summer 2012

Introduction to PHP

Class 8, HW 4

**Questions (2 points each)**

1. How many products in the *products* table cost more than $12 (hint: you must use

*count* and *group by*)?

Dave,

The instructions were not clear what output you wanted.

**My first solution using both COUNT and GROUP yielded the below results.**

SELECT price, count(price)

FROM `products`

WHERE price > 12.00

group by price

SQL result

Host: localhost

Database: homework4

Generation Time: Aug 12, 2012 at 09:51 PM

Generated by: phpMyAdmin 3.5.1 / MySQL 5.5.24-log

SQL query: SELECT price, count(price) FROM `products` WHERE price > 12.00 group by price LIMIT 0, 30 ;

Rows: 3 price count(price)

12.99 1

13.49 1

19.99 1

**My second solution using only COUNT showed only the number**

SELECT count( price )

FROM `products`

WHERE price > 12.00

SQL result

Host: localhost

Database: homework4

Generation Time: Aug 12, 2012 at 09:50 PM

Generated by: phpMyAdmin 3.5.1 / MySQL 5.5.24-log

SQL query: SELECT count(price) FROM `products` WHERE price > 12.00 ;

Rows: 1 count(price)

3

=============================================================

**2. In the *orders* table, which orders were made by the user with the id of 2?**

SELECT \* FROM `orders`

where `orders`.user\_id = 2

SQL result

Host: localhost

Database: homework4

Generation Time: Aug 13, 2012 at 01:49 AM

Generated by: phpMyAdmin 3.5.1 / MySQL 5.5.24-log

SQL query: SELECT \* FROM `orders` where `orders`.user\_id = 2 LIMIT 0, 30 ;

Rows: 2 id order\_id product\_id user\_id date\_created

3 321cba 1 2 2012-08-12 15:16:14

4 xyz098 3 2 2012-08-12 15:16:14

=============================================================

**3. In the orders table, which orders were made by the user with the username**

**‘bcosby’ (hint, you must join the *orders* table with the *users* table)?**

SELECT \* FROM orders

Inner join users on orders.user\_id = users.id

where users.username = 'bcosby'

SQL result

Host: localhost

Database: homework4

Generation Time: Aug 13, 2012 at 03:31 AM

Generated by: phpMyAdmin 3.5.1 / MySQL 5.5.24-log

SQL query: SELECT \* FROM orders Inner join users on orders.user\_id = users.id where users.username = 'bcosby' LIMIT 0, 30 ;

Rows: 4 id order\_id product\_id user\_id date\_created id username password first\_name last\_name email date\_created

5 a1b2c3 1 3 2012-08-12 15:16:14 3 bcosby 2e124369c7b64eb78542f0694bcfa74e353573d2 Bill Cosby bcosby@aol.com 2012-08-12 15:16:14

6 a1b2c3 2 3 2012-08-12 15:16:14 3 bcosby 2e124369c7b64eb78542f0694bcfa74e353573d2 Bill Cosby bcosby@aol.com 2012-08-12 15:16:14

7 a1b2c3 3 3 2012-08-12 15:16:14 3 bcosby 2e124369c7b64eb78542f0694bcfa74e353573d2 Bill Cosby bcosby@aol.com 2012-08-12 15:16:14

8 a1b2c3 4 3 2012-08-12 15:16:14 3 bcosby 2e124369c7b64eb78542f0694bcfa74e353573d2 Bill Cosby bcosby@aol.com 2012-08-12 15:16:14

SELECT orders.order\_id, users.username

FROM orders, users

WHERE orders.user\_id = users.id

AND users.username = 'bcosby'

SQL result

Host: localhost

Database: homework4

Generation Time: Aug 13, 2012 at 01:57 AM

Generated by: phpMyAdmin 3.5.1 / MySQL 5.5.24-log

SQL query: SELECT orders.order\_id, users.username FROM orders, users where orders.user\_id = users.id and users.username = 'bcosby' LIMIT 0, 30 ;

Rows: 4 order\_id username

a1b2c3 bcosby

a1b2c3 bcosby

a1b2c3 bcosby

a1b2c3 bcosby

=============================================================

**4. Which user ordered the most products (hint, you must join the *orders* table with the**

***users* table, you must use *count* and *group by*)?**

SELECT users.first\_name, users.last\_name, count(orders.product\_id)

FROM users inner join orders

on users.id = orders.user\_id

group by users.first\_name

SQL result

Host: localhost

Database: homework4

Generation Time: Aug 13, 2012 at 03:56 AM

Generated by: phpMyAdmin 3.5.1 / MySQL 5.5.24-log

SQL query: SELECT users.first\_name, users.last\_name, count(orders.product\_id) FROM users inner join orders on users.id = orders.user\_id group by users.first\_name LIMIT 0, 30 ;

Rows: 3 first\_name last\_name count(orders.product\_id)

Albert Einstein 2

Ben Franlin 2

Bill Cosby 4

=============================================================

**5. Please tell me what normalizing a database schema means. What are the benefits of**

**normalizing your database. Give me an example of a denormalized database table,**

**and how you would normalize the schema (this question does not require SQL).**

Normalization ensures there aren’t any duplicate fields within the related tables of your database.

Normalization reduces space requirements of your database since you aren’t replicating data across tables. It also makes your database more manageable if any modifications are required. Any modification only needs to happen in one table and their related stored procedures(if needed).

**Denormalized tables**

User Table

Name char(40)

Address

Billing Table

Name

Address

Amt Owed

**Normalized tables**

User Table

Id – unique id for each user row

Name char(40)

Address

Billing table

Id – unique id for billing table row

User\_id <- user id, used to join with user table

Amt Owed

=============================================================

**Extra Credit (+2 Points)**

Join all three tables together, the products, users, and orders table to tell me the

username, first\_name, last\_name, email, product\_name, product\_price, order\_id, and

date\_created (of order). HINTS: You should expect to have two INNER JOIN

statements. The number of rows you should expect back is the total number of rows in

the orders table.

Select `users`.username, `users`.first\_name, `users`.last\_name, `users`.email, `products`.product\_name, `products`.price, `orders`.order\_id, `orders`.date\_created

from users

inner join orders inner join products

on users.id = orders.user\_id and `orders`.product\_id = `products`.id

SQL result

Host: localhost

Database: homework4

Generation Time: Aug 14, 2012 at 01:00 AM

Generated by: phpMyAdmin 3.5.1 / MySQL 5.5.24-log

SQL query: Select `users`.username, `users`.first\_name, `users`.last\_name, `users`.email, `products`.product\_name, `products`.price, `orders`.order\_id, `orders`.date\_created from users inner join orders inner join products on users.id = orders.user\_id and `orders`.product\_id = `products`.id LIMIT 0, 30 ;

Rows: 8 username first\_name last\_name email product\_name price order\_id date\_created

aeinstein Albert Einstein aeinstein@gmail.com Good Will Hunting 13.49 abc123 2012-08-12 15:16:14

aeinstein Albert Einstein aeinstein@gmail.com Physics for Dummies 11.99 abc123 2012-08-12 15:16:14

bfranklin Ben Franlin bfranklin@yahoo.com Independence Day 19.99 321cba 2012-08-12 15:16:14

bfranklin Ben Franlin bfranklin@yahoo.com People's History Of The United States 12.99 xyz098 2012-08-12 15:16:14

bcosby Bill Cosby bcosby@aol.com Independence Day 19.99 a1b2c3 2012-08-12 15:16:14

bcosby Bill Cosby bcosby@aol.com Good Will Hunting 13.49 a1b2c3 2012-08-12 15:16:14

bcosby Bill Cosby bcosby@aol.com People's History Of The United States 12.99 a1b2c3 2012-08-12 15:16:14

bcosby Bill Cosby bcosby@aol.com Physics for Dummies 11.99 a1b2c3 2012-08-12 15:16:14