**HW 3. RDBMS & SQL**

**IS 5315**

**What to submit:** ***Upload one Word document*** to Canvas.

**Grading:**

You should provide at lease **4 or more advanced level queries**, using JOIN and other features of SQL.

**What to achieve:**

1. Server:

# Source: low memory mysql docker build

# git@github.com:alexanderkoller/low-memory-mysql.git

# https://github.com/alexanderkoller/low-memory-mysql

# Edit file - low-memory-my.cnf by adding below two lines at the end

# Accept connections from any IP address

bind-address = 0.0.0.0

cd ~

git clone git@github.com:suisp/low-memory-mysql.git

cd ~/low-memory-mysql

docker build .

# mysql container

docker run --name mysql -p 3306:3306 -e MYSQL\_ROOT\_PASSWORD=bigdataftw -e MYSQL\_ROOT\_HOST=% -d mysql/mysql-server:5.7

# mysql web GUI client

docker run --name myadmin -d --link mysql:db -p 8080:80 phpmyadmin/phpmyadmin

1. MySQL access via PHPMyAdmin

address: http://yourip:8080

id: root pw: bigdataftw

1. Import Database

download a file - http://downloads.mysql.com/docs/world.sql.zip

In phpmyadmin, import a file (downloaded above) under the "Import" tab

1. Imageine you have a global business. For your services/products, you want to know where you can target your marketing. Build five queries using the below format.

**What to Write in HW2 Word Document:**

1. Your urls (web page address) - phpmyadmin site address
2. Dicsuss the three tpics:
   1. what is Relational Database
   2. what is SQL
   3. what is MySQL and identify the benefits of MySQL
   4. the benefits of MySQL
3. Descriptions of your makeup company's servides/projects using "world" database
4. Bduild **Five Queries** according to your description above. Each query should have:
   1. A question in plain English
   2. A query in SQL
   3. A screenshot of phpmyadmin query results

**Sample** - do NOT use below queries in your HW

**Company Services/Projects descriptions: Write one paragraph of your grand question - project overview**

**Question 1:** Which cities has most population, display 10?

**Query 2:**

SELECT Name, Population FROM city

ORDER BY 2 DESC

LIMIT 10;

**Screenshot:**

**Question 2:** Which cities has most population, display 10 with country names?

**Query 2:**

SELECT ct.Name, ct.Population, cr.Name

FROM city as ct

JOIN country as cr

ON ct.CountryCode = cr.Code

ORDER BY 2 DESC

LIMIT 10;

**Screenshot:**

**...**

**Question 5:**

**Docker References**:

<https://hub.docker.com/_/mysql/>

<https://github.com/phpmyadmin/docker>

<http://www.databasejournal.com/features/mysql/article.php/3904531/The-10-Most-Common-MySQL-Queries.htm>

https://www.dyclassroom.com/mysql/mysql-aggregate-functions-count-min-max-avg-and-sum

## **Assignment Rubric**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Capstone | Milestone Plus | Milestone | Benchmark |
| 10 | 8 | 6 | 4 |
| Explanation of Issues | Issue/problem to be considered critically is stated clearly and described comprehensively, delivering all relevant information necessary for full unerstanding. | Issue/problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions. | Issue/problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/or backgrounds unknown. | Issue/problem to be considered critically is stated without clarification or description. |
| External Sources | Accesses information using effective, well-designed search strategies and most appropriate information sources. | Accesses information using variety of search strategies and some relevant information sources. Demonstrates ability to refine search. | Accesses information using simple search strategies, retrieves information from limited and similar sources. | Accesses information randomly, retrieves information that lacks relevance and quality. |
| IT Applicability | Implements the solution in a manner that addresses thoroughly and deeply multiple contextual factors of the problem. | Implements the solution in a manner that addresses multiple contextual factors of the problem in a surface manner. | Implements the solution in a manner that addresses the problem but ignores relevant contextual factors. | Implements the solution in a manner that does not directly addresses the problem statement. |
| Organization | Organizational pattern is clearly and consistently observable and is skillful and makes the content of the presentation cohesive. | Organizational pattern is clearly and consistently observable within the presentation. | Organizational pattern is intermittently observable within the presentation. | Organizational pattern is not observable within the presentation. |