

INFSCI 2710 – Database Management – Spring 2018

Homework 4 – A Data-Driven Web Application

1. Use the settings in lab session to connect to your MySQL and phpmyadmin
2. For all tasks, use the **Yelp database (same as Homework #3)** to fulfill the requirements.
3. **Attach your SQL statements + screenshot below each question and save it as Word/PDF (highly recommended) file.**
4. Name the Word document (or PDF as I recommended) with your answers as YourPittID_infsci2710_homework5.docx (pdf). In other words, if your Pitt ID (first part of your Pitt email) is abc123, your submission file should be named abc123_infsci2710_homework4.docx (pdf)
5. Zip both your code folder and document as YourPittID_infsci2710_homework4.zip
6. Submit the Zip file via CourseWeb

Task1 (20 points): Create two store procedure in your yelp_db database. The procedure should 1) reproduce the answer of “Task 6 in your **Homework #3**”; 2) Add a usage record to a newly created table – Social_Function_Usage (see the table below). The table will be inserted a new row ([id], [procedure name], [date]) while calling the stored procedure.

Field name	Primary Key	Data type	Is null?	Is auto-increment?
Id	yes	INT	No	yes
Call_Function	No	VARCHAR(20)	No	no
Date	No	Datetime	No	no

```
CREATE TABLE Social_Function_Usage
( id INT PRIMARY KEY NOT NULL AUTO_INCREMENT,
  Call_Function VARCHAR(20) NOT NULL,
  Date Datetime NOT NULL )
```

The screenshot shows the phpMyAdmin web interface. The browser address bar indicates the URL: localhost/phpmyadmin/#PMAURL-4:tbl_structure.php?db=yelp_db&table=Social_Function_Usage&server=1&target=&token=84c1f5f3c5b537d94c02a7ccb611dbab. The interface displays the table structure for 'Social_Function_Usage' in the 'yelp_db' database. The table has three columns: 'id' (int(11), primary key, auto-increment), 'Call_Function' (varchar(20)), and 'Date' (datetime). The 'Table structure' tab is selected, showing the column details and actions. Below the table structure, there are options to 'Add' columns and a section for 'Indexes'. The bottom of the interface shows a Windows taskbar with various application icons and the system clock indicating 1:14 PM on 4/1/2019.

Procedure 1:

Show top 20 highest rated orthodontists in any state in 2016

DELIMITER \$\$

CREATE PROCEDURE GetTopOrtho2 (IN state VARCHAR(5))

BEGIN

SELECT b.name, b.stars from business as b

JOIN review as r on b.id = r.business_id

JOIN category as c on b.id = c.business_id

WHERE b.state = state and

r.date between '2016-01-01' and '2017-01-01' and

c.category = 'Orthodontists'

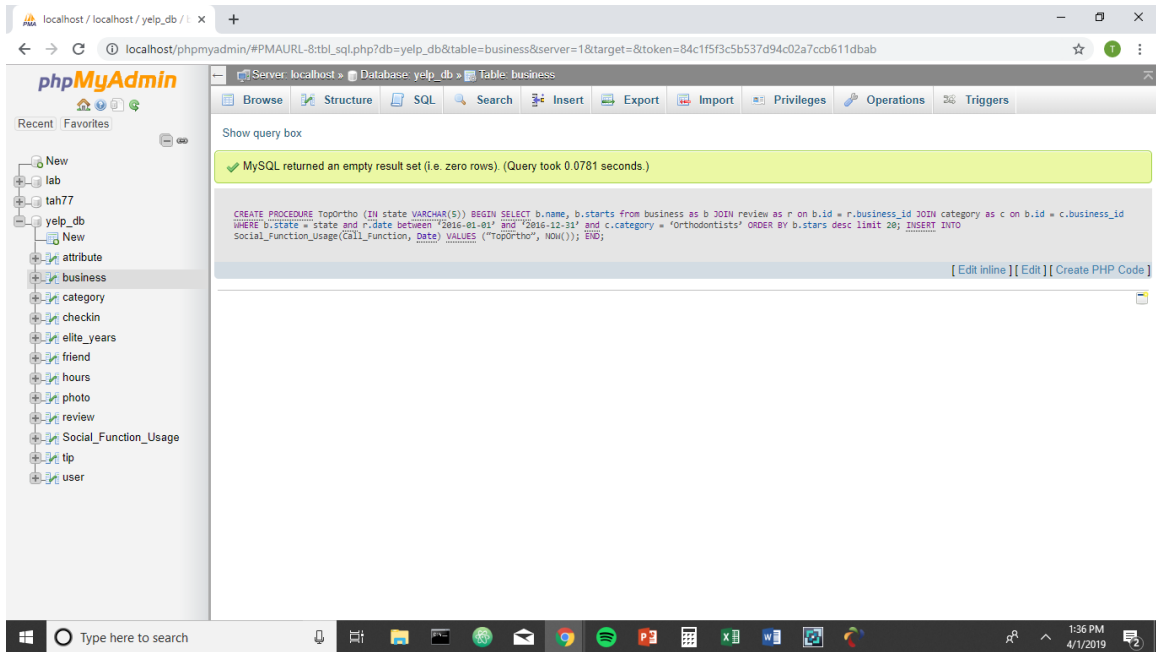
ORDER BY b.stars

desc limit 20;

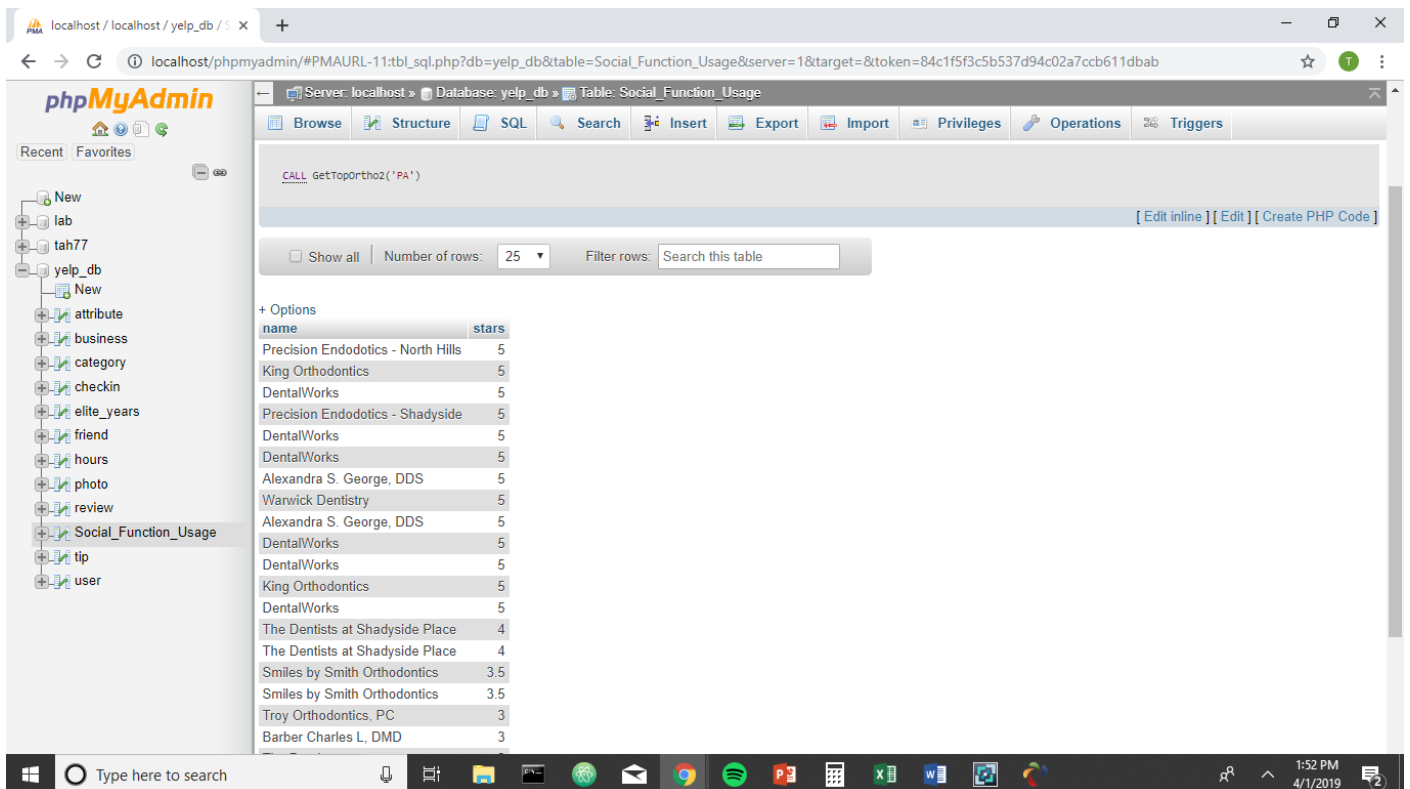
INSERT INTO Social_Function_Usage(Call_Function, Date) VALUES

("GetTopOrtho2", NOW());

END;



CALL GetTopOrtho2('PA'); **Shows top 20 orthodontists in PA for 2016



Procedure 2:

Show top 20 businesses (in PA) from any category in 2016

```
DELIMITER $$
```

```
CREATE PROCEDURE GetTopInPA (IN category VARCHAR(30))
```

```
BEGIN
```

```
SELECT b.name, b.stars from business as b
```

```
JOIN review as r on b.id = r.business_id
```

```
JOIN category as c on b.id = c.business_id
```

```
WHERE c.category = category
```

```
and r.date between '2016-01-01' and '2017-01-01'
```

```
and b.state = 'PA'
```

```
ORDER BY b.stars
```

```
desc limit 20;
```

```
INSERT INTO Social_Function_Usage(Call_Function, Date) VALUES
```

```
("GetTopInPA", NOW());
```

```
END
```

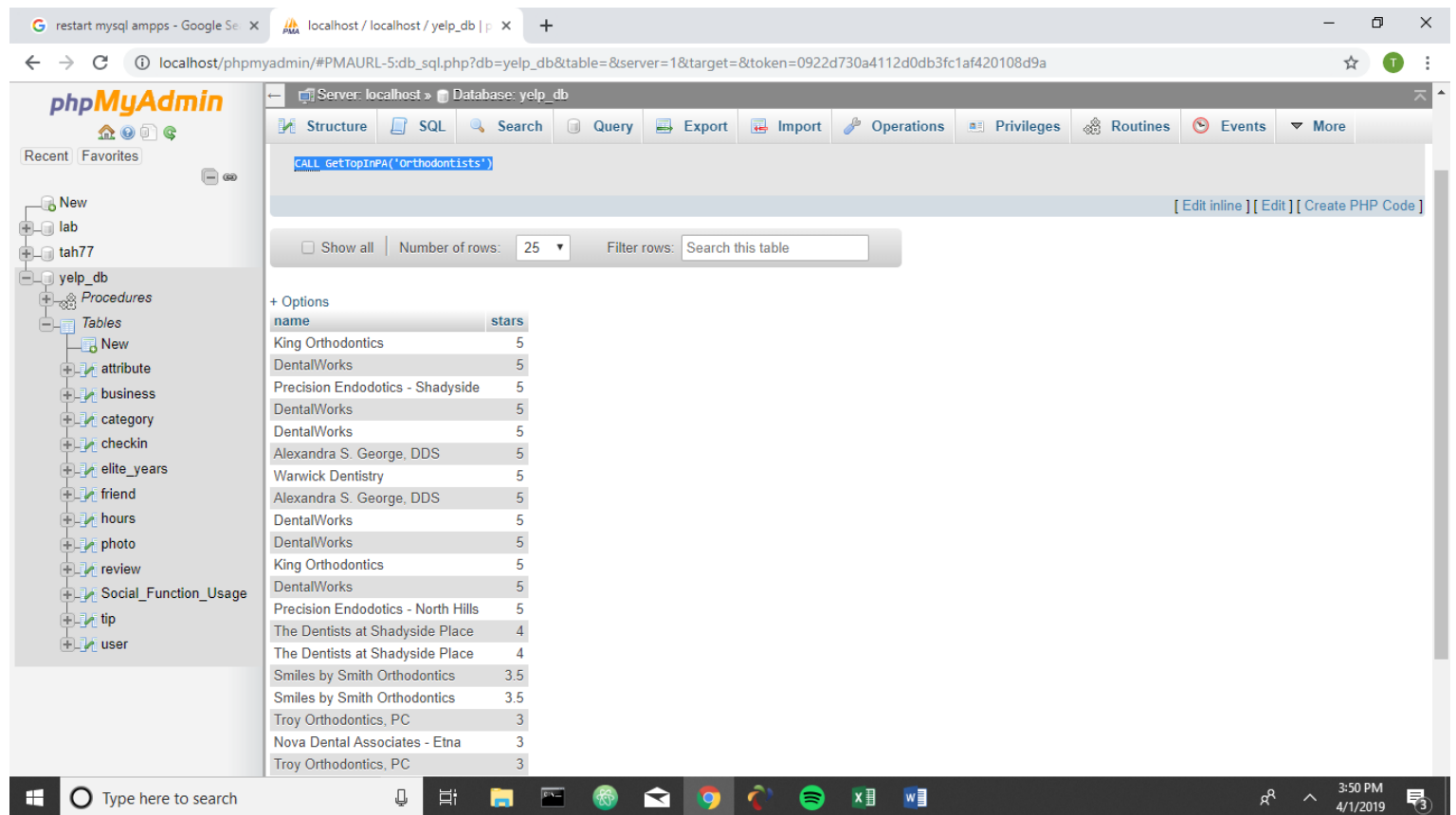
The screenshot shows the phpMyAdmin web interface. The left sidebar displays the database structure for 'yelp_db', including tables like 'business', 'review', 'category', and 'Social_Function_Usage'. The main panel shows the 'SQL' tab with a query box containing the following SQL code:

```
CREATE PROCEDURE GetTopInPA (IN category VARCHAR(30)) BEGIN SELECT b.name, b.review_count from business as b JOIN review as r on b.id = r.business_id JOIN category as c on b.id = c.business_id WHERE c.category = category and r.date between '2016-01-01' and '2017-01-01' and b.state = 'PA' ORDER BY b.stars desc limit 10; INSERT INTO Social_Function_Usage(Call_Function, Date) VALUES ("GetTopInPA", NOW()); END
```

Below the query box, a green message bar indicates: "MySQL returned an empty result set (i.e. zero rows). (Query took 0.0008 seconds.)". The bottom of the interface shows a Windows taskbar with various application icons and a system clock indicating 3:24 PM on 4/1/2019.

```
CALL GetTopInPA('Orthodontists')
```

****Shows top businesses in orthodontists category in PA for 2016**



Task 2 (20 points): Write a PHP application to call the two stored procedures. You need to itemize all return results. The user should be able to click and inspect the details. For example, in the sample social function of 'top restaurant of the day', a user can 1) browse the restaurants by different given date; 2) click the link in the browsing page to inspect the detail of the restaurant.

HTML TO ALLOW FORM REQUESTS:

```
<html>
<head>
  <title>
    Homework 4
  </title>
</head>
<body>
  <form name="inputForm" action="callprocedures.php" method="POST"><br>
    Top Orthodontists 2016 (choose state): <input type="text"
name="ORTHO"><br>
```

```

        <input type="submit" value="submit">
    </form>

    <form name="inputForm" action="callprocedures.php" method="POST"><br>
        Top Businesses in PA 2016 (choose category):<input type="text"
name="PATOP"><br>
        <input type="submit" value="submit">
    </form>
</body>
</html>

```

PHP TO HANDLE CALL TO PROCEDURE FROM FORM:

```

<html>
<head>
<title>
    Homework 4
</title>
</head>
<body>

    <?php
$ORTHO = $_POST["ORTHO"];
$PATOP = $_POST["PATOP"];
if ($ORTHO == "" && $PATOP == "") {
    die("<font color=\red\">Please enter information.</font>");
}
// Generate sql
$sql1 = "CALL GetTopOrtho2('$ORTHO')";
$sql2 = "CALL GetTopInPA('$PATOP')";
// Create connection
$servername = "localhost";
$username = "root";
$password = "mysql";
$database = "yelp_db";
$conn = new mysqli($servername, $username, $password, $database);
// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
echo "<p><font color=\red\">Connected successfully</font></p>";
if ($ORTHO != "") {

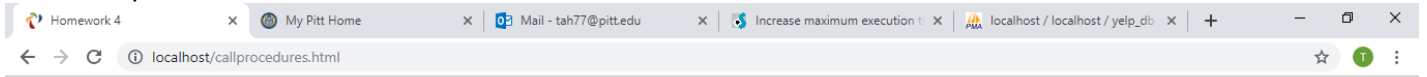
```

```

// Run a sql
$result = $conn->query($sql1);
if ($result) {
    echo "<p>Successful!</p>";
    echo "<table border=1px>";
    while ($row = $result->fetch_assoc()) {
        $value = $row["name"];
        echo "<tr>";
        echo "<td><a href=\"detail.php?name=$value\">See
Details</a></td>";
        foreach ($row as $key => $value) {
            echo "<td>$value</td>";
        }
        echo "</tr>";
    }
    echo "</table>";
} else {
    echo "Something went wrong!<a href=\"callprodedures.html\">Try
again!</a>";
}
} else {
    // Run a sql
    $result = $conn->query($sql2);
    if ($result) {
        echo "<p>Successful!</p>";
        echo "<table border=1px>";
        while ($row = $result->fetch_assoc()) {
            $value = $row["name"];
            echo "<tr>";
            echo "<td><a href=\"detail.php?name=$value\">See Details
</a></td>";
            foreach ($row as $key => $value) {
                echo "<td>$value</td>";
            }
            echo "</tr>";
        }
        echo "</table>";
    } else {
        echo "Something went wrong!<a href=\"callprocedures.html\">Try
again!</a>";
    }
}
}

```

```
// Close connection
mysqli_close($conn);
?>
</body>
</html>
```



Top Orthodontists 2016 (choose state):

Top Businesses in PA 2016 (choose category):



HTML form to call procedures

Homework 4 x My Pitt Home x Mail - tah77@pitt.edu x localhost / localhost / yelp_db / | x +

localhost/callprocedures.php

Connected successfully

Successful!

See Details	King Orthodontics	5
See Details	DentalWorks	5
See Details	Precision Endodontics - Shadyside	5
See Details	DentalWorks	5
See Details	DentalWorks	5
See Details	Alexandra S. George, DDS	5
See Details	Warwick Dentistry	5
See Details	Alexandra S. George, DDS	5
See Details	DentalWorks	5
See Details	DentalWorks	5
See Details	King Orthodontics	5
See Details	DentalWorks	5
See Details	Precision Endodontics - North Hills	5
See Details	The Dentists at Shadyside Place	4
See Details	The Dentists at Shadyside Place	4
See Details	Smiles by Smith Orthodontics	3.5
See Details	Smiles by Smith Orthodontics	3.5
See Details	The Dentistry	3
See Details	Troy Orthodontics, PC	3
See Details	Nova Dental Associates - Etma	3

After calling procedure 1 (entered PA for state into form)

Homework 4 x My Pitt Home x Mail - tah77@pitt.edu x localhost / localhost / yelp_db / | x +

localhost/callprocedures.php

Connected successfully

Successful!

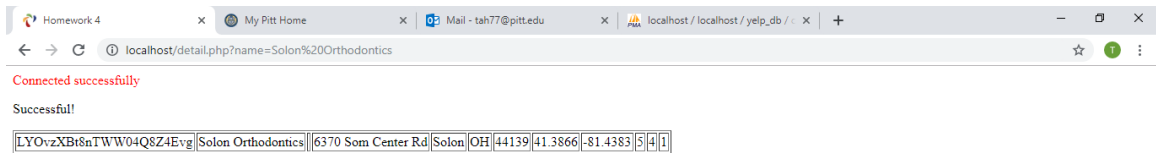
See Details	Matt's Sub Shack and Pizza	5
See Details	Matt's Sub Shack and Pizza	5
See Details	Matt's Sub Shack and Pizza	5
See Details	Applewood Smoke Burger	4.5
See Details	Elrama Tavern	4.5
See Details	Applewood Smoke Burger	4.5
See Details	Broadway Brunch	4.5
See Details	Big Shot Bob's House of Wings - Avalon	4.5
See Details	Hundred Wood	4.5
See Details	Kavsar Restaurant	4.5
See Details	Big Shot Bob's House of Wings - Avalon	4.5
See Details	Kavsar Restaurant	4.5
See Details	Lenzi's Restaurant	4.5
See Details	Broadway Brunch	4.5
See Details	Jamison's On West Liberty	4.5
See Details	Applewood Smoke Burger	4.5
See Details	Big Shot Bob's House of Wings - Avalon	4.5
See Details	Kavsar Restaurant	4.5
See Details	Big Shot Bob's House of Wings - Avalon	4.5
See Details	Veltre's Pizza	4.5

After calling procedure 2 (entered Burgers as category into form)

PHP TO VIEW DETAILS:

```
<html>
  <head>
    <title>
      Homework 4
    </title>
  </head>
  <body>

  <?php
$name = $_GET['name'];
$sql = "SELECT * from business where name = \"$name\"";
$servername = "localhost";
$username = "root";
$password = "mysql";
$database = "yelp_db";
$conn = new mysqli($servername, $username, $password, $database);
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
echo "<p><font color=\"red\">Connected successfully</font></p>";
$result = $conn->query($sql);
if ($result) {
    echo "<p>Successful!<p>";
    echo "<table border=1px>";
    while ($row = $result->fetch_assoc()) {
        echo "<tr>";
        foreach ($row as $key => $value) {
            echo "<td>$value</td>";
        }
        echo "</tr>";
    }
    echo "</table>";
} else {
    echo "<p>Something went wrong!<a href=\"callprocedures.html\">Try
again!<a></p>";
}
?>
  </body>
</html>
```



After clicking details next to any business (this was for Solon Orthodontics in a query with OH using procedure 1)

Task 3 (25 points): Write a search function (search.php) so that the user can search (filter) the businesses through the review text in the Yelp data. The user should be able to search the businesses with a specific keyword, e.g., to explore the businesses with the keyword 'awesome' in their reviews. You need to itemize all return results. The user should be able to click and inspect the details.

HTML FOR FORM:

```
<html>
  <head>
    <title>
      Homework 4
    </title>
  </head>

  <body>
    <form name="inputForm" action="search.php" method="POST"><br>
      Enter keyword: <input type="text" name="INPUT"><br>
      <input type="submit" value="submit">
```

```
</form>

</body>
</html>
```

PHP FOR KEYWORD SEARCH

```
<html>
  <head>
    <title>
      Homework 4
    </title>
  </head>
  <body>

    <?php
    $INPUT = $_POST['INPUT'];
    $sql = "SELECT b.name,r.text
    FROM business as b
    JOIN review as r on b.id = r.business_id
    WHERE r.text LIKE '%$INPUT%' LIMIT 50";
    $servername = "localhost";
    $username = "root";
    $password = "mysql";
    $database = "yelp_db";
    $conn = new mysqli($servername, $username, $password, $database);
    if ($conn->connect_error) {
        die("Connection failed: " . $conn->connect_error);
    }

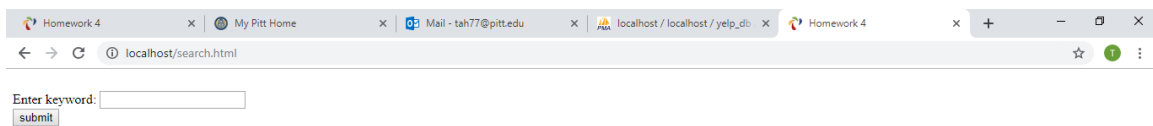
    echo "<p><font color=\"red\">Connected successfully</font></p>";
    $result = $conn->query($sql);
    if ($result) {
        echo "<p>Successful!</p>";
        echo "<table border=1px>";
        echo "<tr><td></td><td>Business Name</td><td>Review Text</td></tr>";

        while ($row = $result->fetch_assoc()) {
            $value = $row["name"];
            echo "<tr>";
            echo "<td><a href=\"detail.php?name=$value\">More
Details</a></td>";

            foreach ($row as $key => $value) {
```

```
        echo "<td>$value</td>";
    }

    echo "</tr>";
}
echo "</table>";
} else {
    echo "Something Wrong!<a href=\"callprocedures.html\">Try again</a>";
}
?>
</body>
</html>
```



*Search.html to enter keyword

Homework 4 x My Pitt Home x Mail - tah77@pitt.edu x localhost / localhost / yelp_db x Homework 4 x

localhost/search.php

Connected successfully

Successful!

	Business Name	Review Text
More Details	W Scottsdale	I just fell in love with Scottsdale, Arizona and The W Hotel! Stayed here this past weekend for my first time being in Scottsdale. I will say that the love is so real that I do not plan to ever stay anywhere else. This hotel is in such a convenient location that you will never have to take an Uber anywhere! We were walking distance by the big mall (that I never made it to) and from all the nightlife (which of course I made it to!). As read in the other reviews, this is NOT the place for kids and families to go to and it is loud with music from all the clubs surrounding this place. If you are a light sleeper, good luck! The rooms are pricey but well worth it! PROS: -Cabanas are super reasonable price! On a Saturday I got a day bed cabana which consisted of two day beds under a canopy right by the pool and it was only \$100. Perfect for just me and my girlfriend! -Drinks and food were great! So great that all weekend, we ate at the hotel! -The people that work here are so friendly and so beautiful -Pool was perfect for lounging and never over crowded -DJ at the pool on weekends was awesome! -The hotel offers late check out for a small additional fee. We were able to check out at 6:00pm which was perfect because that is the time we needed to leave for the airport. -To use the elevators you need your room key which I love to keep the creepsters out. -The rooms were amazing and the bed was sooooo comfortable! CONS: -During the DJ/Party times at the pool, we weren't allowed to take a nap in our paid cabana. The workers will actually tell you no sleeping. Strange! What if I wasn't sleeping and just resting my eyes! -Not sure when the pool closes but I do wish it was open for a relaxing night swim. Went Sunday night for a night swim and it was closed As you can tell, there were many Pros and not many Cons! Successful hotel! P.S. Stayed for 3 whole days and ONLY left the hotel once! Haha!
More Details	Blue Ribbon Sushi Bar and Grill	Wow i don't get all the bad reviews. I came with 2 friends and had the most amazing meal ever. We just stopped by on the quicks and glad we did. I would say this place is kinda pricey, but i can't complain. I simply had 2 tiger rolls and breaded chicken wings. OMG sooo GOOD! The wings were marinated perfectly and also the sauce that came with it was very good. We had an awesome server (Joey) and we were well taken care of. We simply sat at the bar and watched the chefs do their work. Although, if i were to come next time, i would simply sit at a table. I kind of like my privacy when talking and that you won't have when the chefs are 3ft away from you. Price for tiger roll i believe was \$24 and for the wings \$20. So would i come back? Hell Yes!
More Details	Linda Woodson Dermatology	I went here twice and after leaving with a "eh" feeling after both visits decided it was time to switch to another dermatologist. My first visit I specifically requested Dr. Woodson herself after reading a lot of neutral to negative reviews for her PA and NP. After filling out a ton of paperwork (most of which was not very welcoming- I think I signed about three different forms promising I would definitely pay my bill or be sent to a debt collector. I get they want their money, but what a way to greet your new patients!) I went into the exam room and lo and behold PA John Notabartolo walks into the room. Since I was already there I just went with it. He examined my skin (I went in for some mild adult acne) for less than ten seconds, told me basic skin care advice that I've known about for years, and then wrote me some prescriptions. The whole visit with him lasted about three minutes. No real suggestions or overview of my current skin care regime, no explanation of the possible cause of my condition or what level of severity it was. Basically the only thing I couldn't have found on my own online was the prescriptions. As another reviewer noted, they tend to prescribe the newest brand name drugs and of course both of mine were brand name and expensive! Thankfully my insurance covered mine with a reasonable co-pay, but definitely double check with your insurance before getting them filled. The prescriptions did help my skin, which was awesome. I went back for a follow up as they'd requested to see me in a few weeks and after waiting for over forty minutes past my appointment time was taken back with very little apology for the wait. Again another three minute visit with the PA with another very hurried skin examination and I left wondering why I'd wasted two hours of my time and another doctor's bill. Only one lady at the front desk was very friendly; everyone else in the office seemed less than thrilled to be there. They did call with appointment reminders, which was nice, however the first time they left a voicemail with the time but not the date, and the second time they left a voicemail with one time and then called back and left another voicemail with a different time. Their bills also have the quickest due date I have ever seen. They give you 10 days from when they print the bill until the due date- but they seem to

Type here to search

6:37 PM 4/1/2019

*shows reviews with keyword “awesome” (user can click more details for more details)

Homework 4 x My Pitt Home x Mail - tah77@pitt.edu x localhost / localhost / yelp_db x Homework 4 x

localhost/detail.php?name=W%20Scottsdale

Connected successfully

Successful!

s_466owgNXqmQRuSluHHEQ|W Scottsdale|7277 East Camelback Rd|Scottsdale|AZ|85251|33.5015|-111.924|3|356|1

*Clicking more details for the first result brings you to more details about business

Homework 4

localhost/detail.php?name=Cracker%20Barrel%20Old%20Country%20Store

Connected successfully

Successful!

49WY_Te9ZEeRk_GnuLog	Cracker Barrel Old Country Store		5205 Detroit Rd	Sheffield Village	OH	44054	41.4259	-82.081	3.5	31	1
1WD2WT0kIJT7-zL5ZmFuW	Cracker Barrel Old Country Store		2815 E Craig Rd	North Las Vegas	NV	89030	36.2396	-115.111	3	250	1
1XnxmlP2-BWNkCvREM2czg	Cracker Barrel Old Country Store		9330 E Independence Blvd	Matthews	NC	28105	35.1381	-80.7175	3.5	57	1
3GMxgK11TqpQq8TWh_7uA	Cracker Barrel Old Country Store		295 Carowinds Blvd	Fort Mill	SC	29708	35.0955	-80.9387	3	65	1
A6upLxml9nNaVT_V3oUkg	Cracker Barrel Old Country Store		21611 N 26th Ave	Phoenix	AZ	85027	33.6817	-112.114	3.5	118	1
ACRXKq6Ngktmvf6rdeGwQ	Cracker Barrel Old Country Store		3203 Queen City Dr	Charlotte	NC	28208	35.2398	-80.9182	3.5	63	1
AD5r187-LD836JW6ERa9Cg	Cracker Barrel Old Country Store		9312 W Glendale Ave	Glendale	AZ	85305	33.5382	-112.26	3.5	131	1
d-10D4N236Qc0-ly-plcFw	Cracker Barrel Old Country Store		2101 N Kenyon Rd	Urbana	IL	61802	40.1334	-88.1995	3	28	1
DgHXVoAZ+XzbcQMahuJCbW	Cracker Barrel Old Country Store		5022 E Chandler Blvd	Phoenix	AZ	85048	33.3061	-111.975	3	183	1
GAyHbuUTkAdpHfGJuerQ	Cracker Barrel Old Country Store		1007 N Dobson Rd	Mesa	AZ	85201	33.4347	-111.868	3.5	222	1
i3jZmMPX3cnaL_Jsszoetg	Cracker Barrel Old Country Store		1821 Remount Rd	Gastonia	NC	28054	35.2692	-81.1474	3	33	1
JC-SI-jD2FUaFc3512dVcQ	Cracker Barrel Old Country Store	Cascade Crossing	5100 Tiedeman Rd	Brooklyn	OH	44144	41.4225	-81.7605	3	44	1
LZsXsY98S7I4a7tJtGufig	Cracker Barrel Old Country Store		1209 N Litchfield Rd	Goodyear	AZ	85395	33.4591	-112.357	3.5	130	1
NYxVVeI-zz2qPK6fCwvg	Cracker Barrel Old Country Store		2147 E Springs Dr	Madison	WI	53704	43.1296	-89.2934	3	45	1
QCEhoMxdXkhnHJT_uYVoeg	Cracker Barrel Old Country Store		2371 E Aurora Rd	Twinsburg	OH	44087	41.312	-81.4534	3	27	1
qk_RGuKMuTcWMg5NZLas_w	Cracker Barrel Old Country Store		6055 Som Center Rd	Willoughby	OH	44094	41.5888	-81.4448	3	22	1
TWvAyXcBhfW0GdF-MDUvA	Cracker Barrel Old Country Store		7809 Lyles Ln NW	Concord	NC	28027	35.366	-80.7128	3	50	1
XNIUNm2dshvaUu07b_Z_1Q	Cracker Barrel Old Country Store		16845 N 84th Ave	Peoria	AZ	85382	33.6368	-112.241	4	126	1
XQjr9_zR1vOoZVczfDDwQ	Cracker Barrel Old Country Store	Southeast	8350 Dean Martin Dr	Las Vegas	NV	89139	36.0379	-115.182	3	602	1
YmnFHWI-RGm5BvixJkcJPg	Cracker Barrel Old Country Store		1175 Copperfield Blvd NE	Concord	NC	28025	35.4628	-80.587	4	21	1
zgzLwTpI50zSmcAptJo4Hv	Cracker Barrel Old Country Store		76 Rothrock Lp	Copley	OH	44321	41.1334	-81.6489	3	36	1
zXaW8C2qtFHGVTETeUX9g	Cracker Barrel Old Country Store		200 Davis Blvd	Pittsburgh	PA	15275	40.4498	-80.1733	4	63	1

Type here to search

8:33 PM 4/1/2019

*If a business has more than one location, all with same name will show in detail.php

Task 4 (25 points): Write a data function (data.php) to generate a CSV for the given Bar Chart visualization (viz.php), so the user can inspect the Yelp data distribution of the following criteria:

1. The distribution of monthly review count in 2017.
2. The distribution of annual review count in all years.
3. The distribution of monthly review count in 2017 of a certain business.

Hint:

1. Check <https://github.com/hymanct/infsci2710/tree/master/SampleCode/Visualization> for both viz.php and data.php files.
2. Check <https://bl.ocks.org/mbostock/3885304> for original example
3. You should modify the data.php
4. You should not modify the viz.php (besides line 70-77)

UPDATED data.php

```
<?php
$servername = "localhost";
$username = "root";
$password = "mysql";
$dbname = "yelp_db";
$conn = new mysqli($servername, $username, $password, $dbname);
```

```

// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
$sql = "";
switch ($_GET[action]) {
case 'month_rev':$sql =
"SELECT MONTH(r.date) as n,
COUNT(*) as m
FROM review as r
WHERE YEAR(date) = '2017'
GROUP BY n;";
    break;
case 'annual_rev':$sql =
"SELECT YEAR(r.date) as n,
COUNT(*) as m
FROM review as r
GROUP BY n;";
    break;
default: $sql =
"SELECT MONTH(r.date) as n,
COUNT(*) as m
FROM review as r
JOIN business as b
ON b.id = r.business_id
WHERE YEAR(r.date) = '2017' AND b.name = '$_GET[action]';
GROUP BY n;";
}

$result = $conn->query($sql);
$output = "letter\tfrequency\n";
if ($result) {
    while ($row = $result->fetch_assoc()) {
        $output .= $row['n'] . "\t" . $row['m'] . "\n";
    }
}
$result->free();
echo $output;
// Close connection
mysqli_close($conn);
?>

```


UPDATED viz.php

```
<!DOCTYPE html>
<meta charset="utf-8">
<style>
.bar {
  fill: steelblue;
}
.bar:hover {
  fill: brown;
}
.axis--x path {
  display: none;
}
</style>
<svg width="960" height="500"></svg>
<script src="https://d3js.org/d3.v4.min.js"></script>
<script>
var svg = d3.select("svg"),
    margin = {top: 20, right: 20, bottom: 30, left: 40},
    width = +svg.attr("width") - margin.left - margin.right,
    height = +svg.attr("height") - margin.top - margin.bottom;
var x = d3.scaleBand().rangeRound([0, width]).padding(0.1),
    y = d3.scaleLinear().rangeRound([height, 0]);
var g = svg.append("g")
    .attr("transform", "translate(" + margin.left + "," + margin.top + ")");
d3.tsv("./data.php?action=?php echo $_GET[action]; ?>", function(d) {
  d.frequency = +d.frequency;
  return d;
}, function(error, data) {
  if (error) throw error;
  x.domain(data.map(function(d) { return d.letter; }));
  y.domain([0, d3.max(data, function(d) { return d.frequency; })]);
  g.append("g")
    .attr("class", "axis axis--x")
    .attr("transform", "translate(0," + height + ")")
    .call(d3.axisBottom(x));
  g.append("g")
    .attr("class", "axis axis--y")
    .call(d3.axisLeft(y))
    .append("text")
    .attr("transform", "rotate(-90)")
    .attr("y", 6)
    .attr("dy", "0.71em")
    .attr("text-anchor", "end")
    .text("Frequency");
```

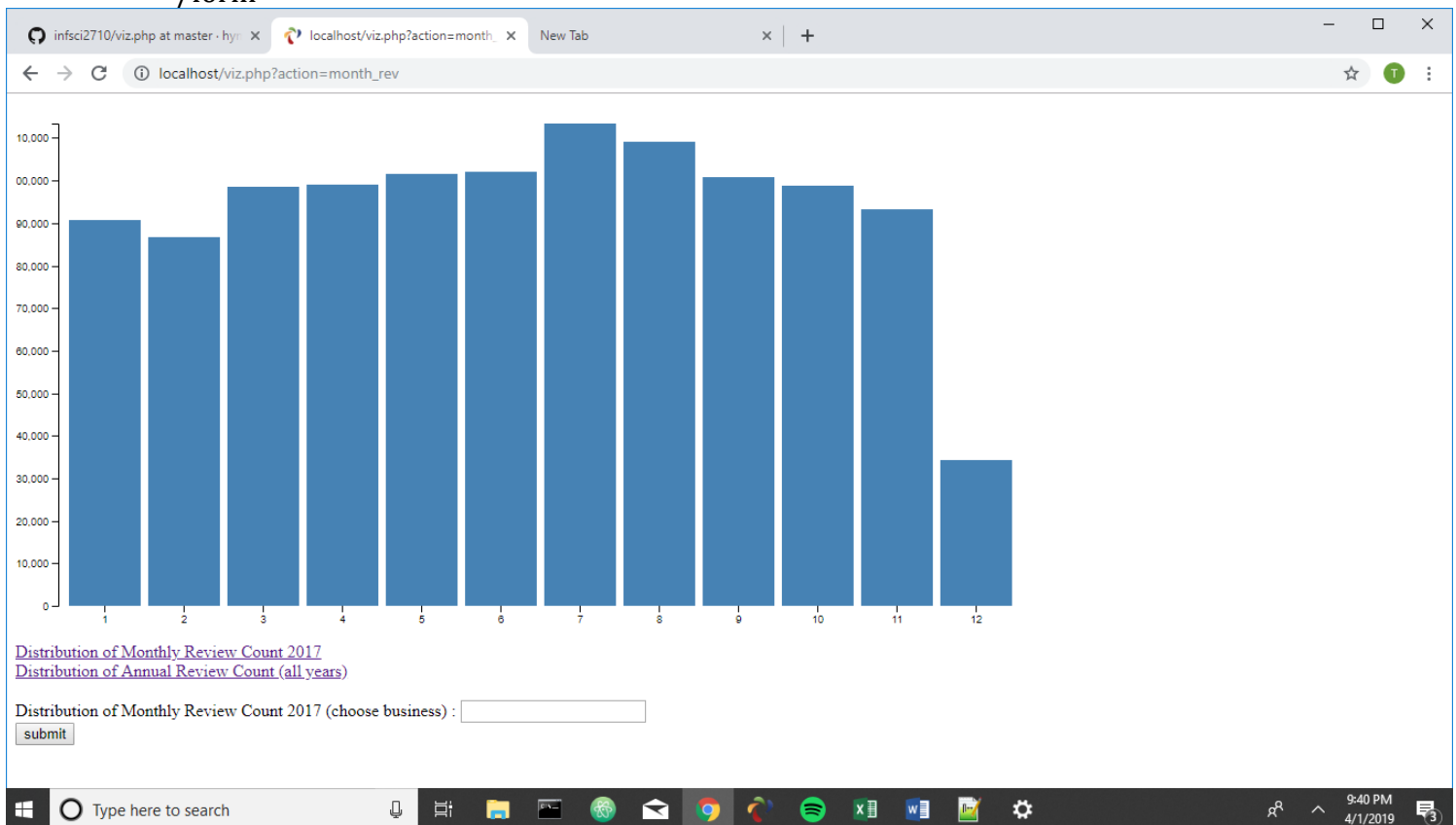
```

g.selectAll(".bar")
  .data(data)
  .enter().append("rect")
  .attr("class", "bar")
  .attr("x", function(d) { return x(d.letter); })
  .attr("y", function(d) { return y(d.frequency); })
  .attr("width", x.bandwidth())
  .attr("height", function(d) { return height - y(d.frequency); });
});

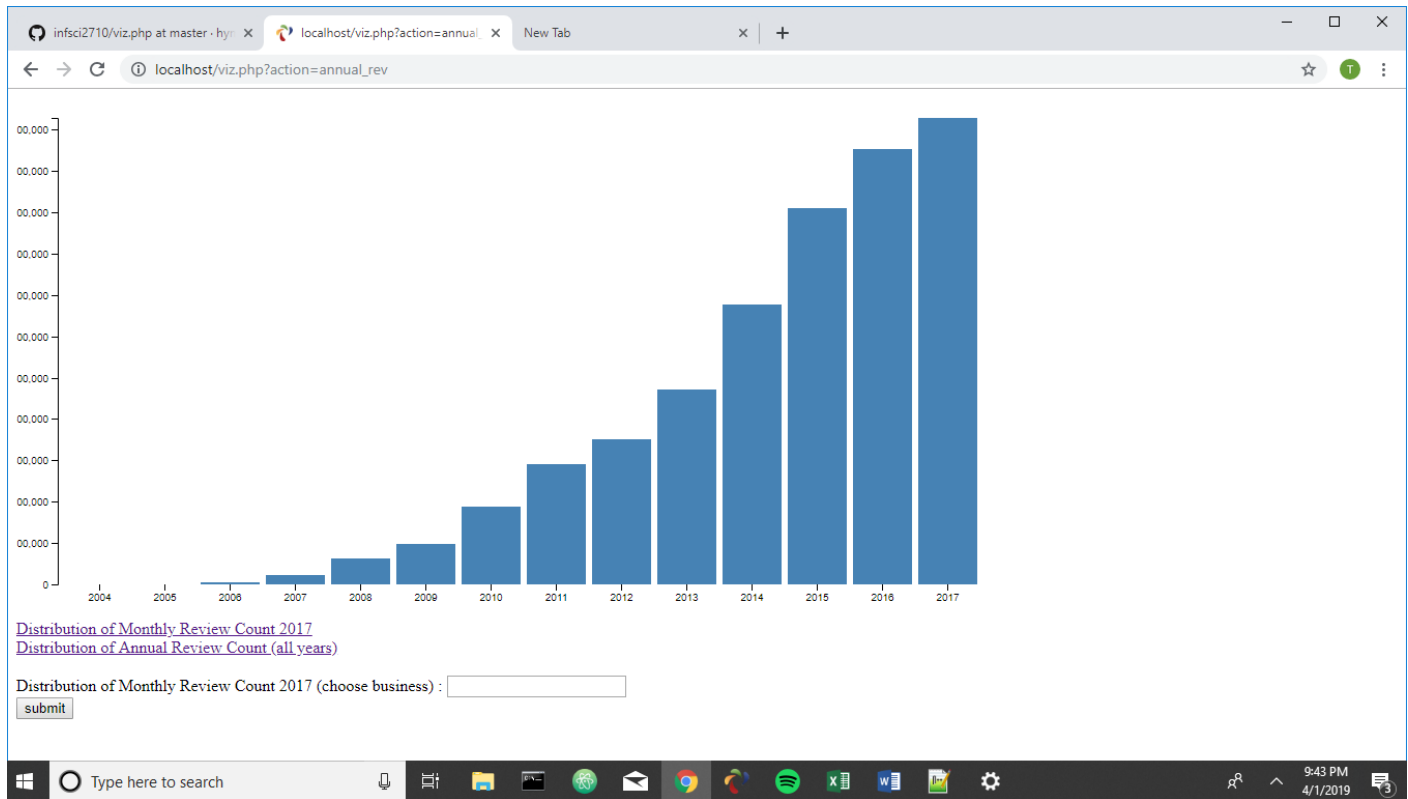
</script><br>
<a href="/viz.php?action=month_rev">Distribution of Monthly Review Count
2017</a> <br>
<a href="/viz.php?action=annual_rev">Distribution of Annual Review Count (all
years)</a> <br>

<form name="queryInput" action="viz.php" method="GET"><br>
  Distribution of Monthly Review Count 2017 (choose business) : <input type="text"
name="action"><br>
  <input type="submit" value="submit">
</form>

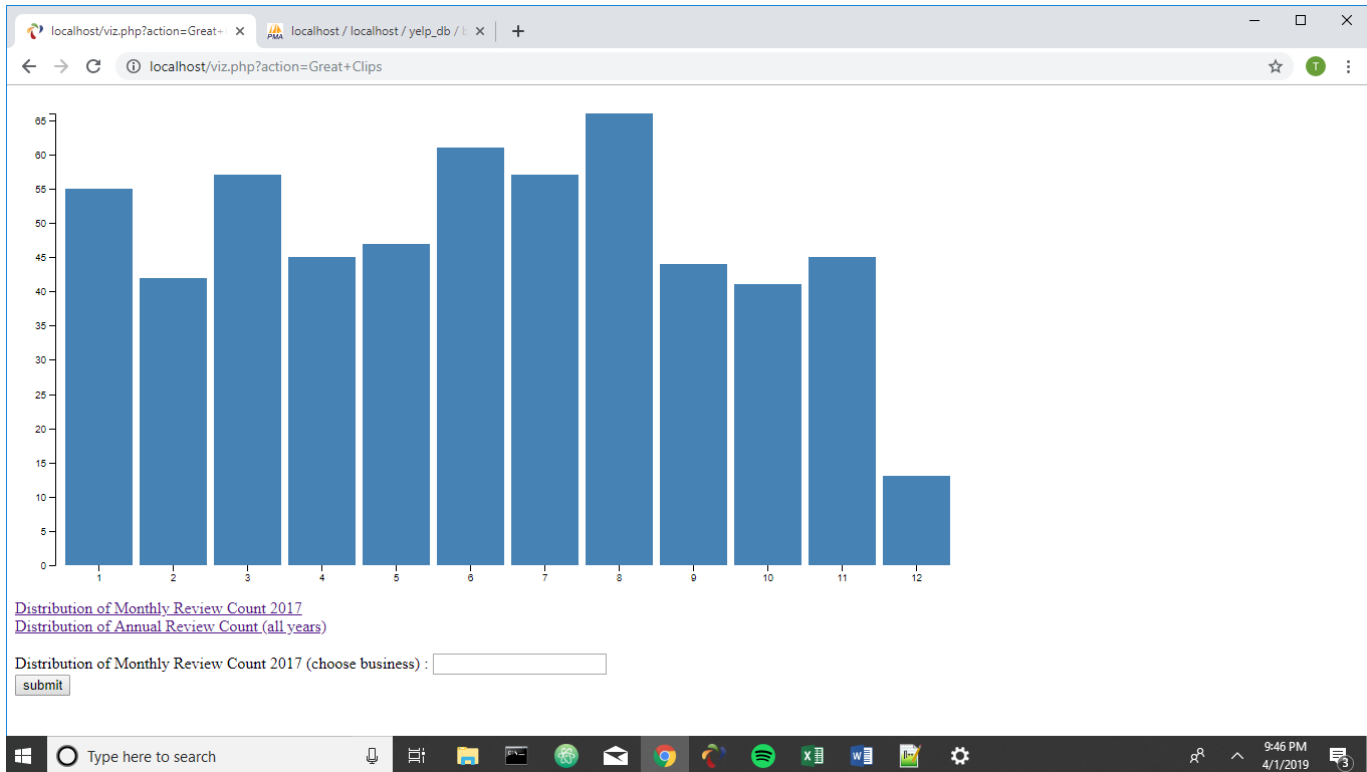
```



Distribution of monthly review count for 2017



Distribution of annual review count for all years



Distribution of monthly review count for Great Clips

Task 5 (10 Point): Write a portal to integrate all the functions in task 1,2,3,4, so a user can visit the page and use all the proposed functions. You are free to propose new pages/functions if necessary, but a simple HTML page which contains all links are not enough. You should let the user to 'use' all the function in the same page, e.g., the users can browse and search the item on the same page.

**I added links back to portal.html for all necessary src codes so that user can easily perform next function

PORTAL.HTML

```
<html>
  <head>
    <title>
      Homework 4
    </title>
    <style>
      .bar {
        fill: steelblue;
      }
      .bar:hover {
        fill: brown;
      }
    </style>
  </head>
  <body>
  </body>
</html>
```

```

        .axis--x path {
            display: none;
        }
    </style>
    <svg width="960" height="500"></svg>
</head>
<body>
    <script>
        var svg = d3.select("svg"),
            margin = {top: 20, right: 20, bottom: 30, left: 40},
            width = +svg.attr("width") - margin.left - margin.right,
            height = +svg.attr("height") - margin.top - margin.bottom;
        var x = d3.scaleBand().rangeRound([0, width]).padding(0.1),
            y = d3.scaleLinear().rangeRound([height, 0]);
        var g = svg.append("g")
            .attr("transform", "translate(" + margin.left + "," + margin.top + ")");
        d3.tsv("/data.php?action=?php echo $_GET[action]; ?>", function(d) {
            d.frequency = +d.frequency;
            return d;
        }, function(error, data) {
            if (error) throw error;
            x.domain(data.map(function(d) { return d.letter; }));
            y.domain([0, d3.max(data, function(d) { return d.frequency; })]);
            g.append("g")
                .attr("class", "axis axis--x")
                .attr("transform", "translate(0," + height + ")")
                .call(d3.axisBottom(x));
            g.append("g")
                .attr("class", "axis axis--y")
                .call(d3.axisLeft(y))
                .append("text")
                .attr("transform", "rotate(-90)")
                .attr("y", 6)
                .attr("dy", "0.71em")
                .attr("text-anchor", "end")
                .text("Frequency");
            g.selectAll(".bar")
                .data(data)
                .enter().append("rect")
                .attr("class", "bar")
                .attr("x", function(d) { return x(d.letter); })
                .attr("y", function(d) { return y(d.frequency); })
                .attr("width", x.bandwidth())
                .attr("height", function(d) { return height - y(d.frequency); });
        });
    </script><br>

```

[Distribution of Monthly Review Count 2017](/viz.php?action=month_rev)

[Distribution of Annual Review Count \(all years\)](/viz.php?action=annual_rev)

<form name="queryInput" action="viz.php" method="GET">

Distribution of Monthly Review Count 2017 (choose business) : <input type="text" name="action">

<input type="submit" value="submit">
</form>

<form name="inputForm" action="callprocedures.php" method="POST">

Top Orthodontists 2016 (choose state): <input type="text" name="ORTHO">

<input type="submit" value="submit">
</form>

<form name="inputForm" action="callprocedures.php" method="POST">

Top Businesses in PA 2016 (choose category):<input type="text" name="PATOP">

<input type="submit" value="submit">
</form>

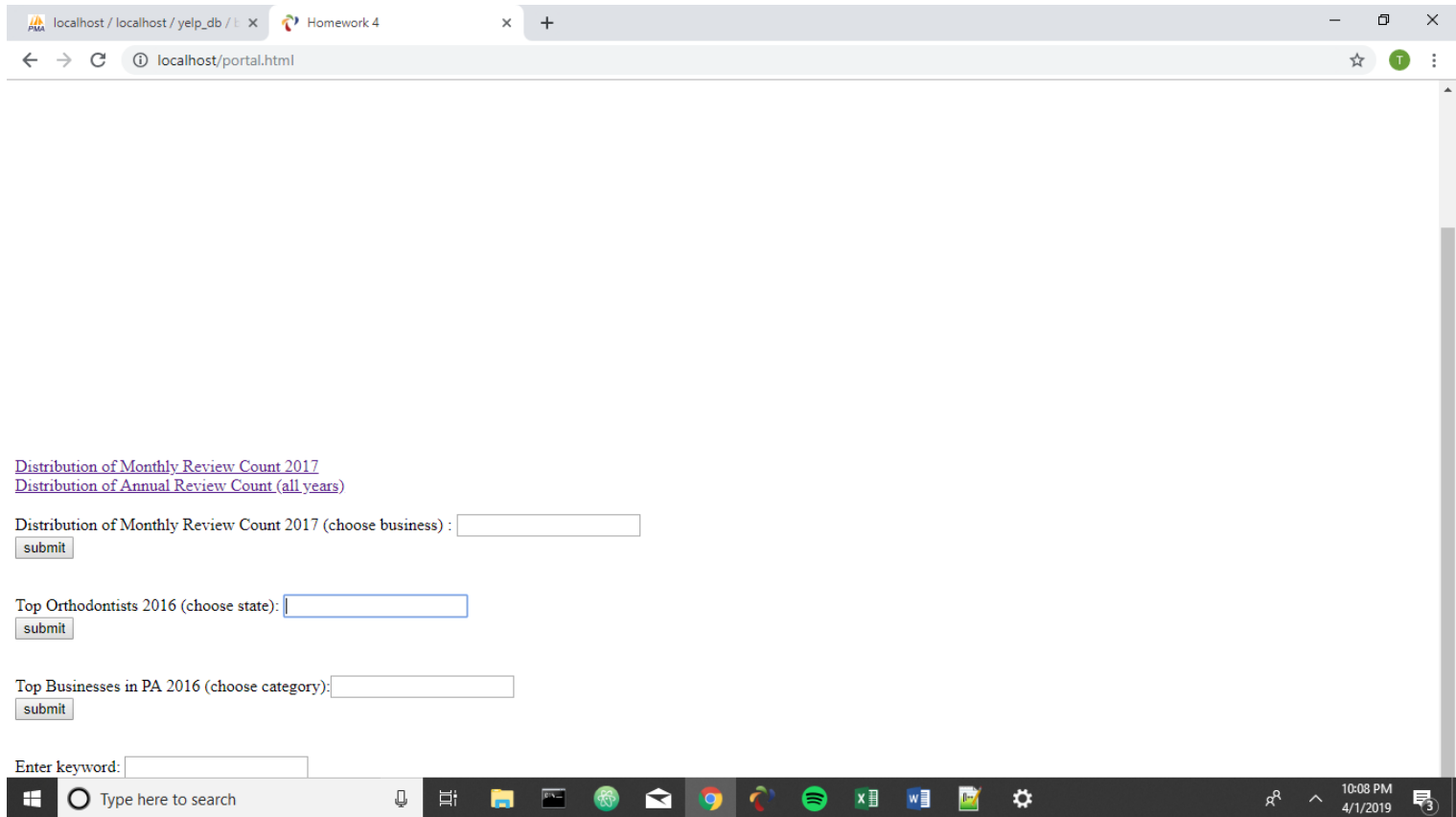
<form name="inputForm" action="search.php" method="POST">

Enter keyword: <input type="text" name="INPUT">

<input type="submit" value="submit">

</form>

</body>



Showing all procedures on portal html

Note:

1. The code/script is expected to be **runnable**. You will lose 20 points if your code is not runnable. I will use the following credential to test your code.

```
$servername = "localhost";      $username = "root";  
$password = "mysql";    $database = "yelp_db";
```
2. Collaboration on homework is permitted to an extent. Specifically, students are allowed to discuss the possible solutions to a problem and help each other with logic errors. However, handing your work to someone so that they may see a copy of your solution, or dictating code to a person on line-by-line basis is not within the spirit of the collaboration policy or the honor code of the university.
3. **I expect to see you demonstrate your works/solutions step by step.**