1420-7001

웹 프로그래밍

Web Programming

By

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Summary of the Previous Lesson

- PHP Basics
  - Basic syntax
  - Variables
  - Operators
    - Arithmetic
    - Logic
    - Comparisons
    - Assignment
    - String
    - Etc.
  - Functions
    - w/ parameters
    - w/o parameters
  - Arrays
- PHP Advanced
  - Fetching data from the XAMP database
- Form data validation and data insertion to DB [Next classes]

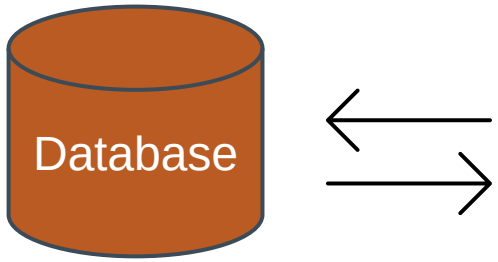
Part I (b)

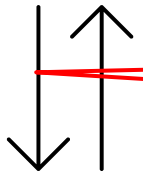
PHP Advanced

Part II (a)

Data Display/Visualizations by fetching data from the DB

Recap of Previous Lessons-Objectives of this course {Data Retrieval}

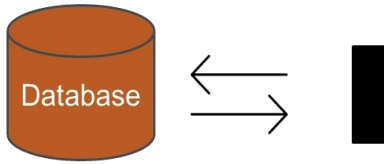




Operations on retrieved data.

id	fullName	gender	email	mobile	address	city	state	created_at	updated_at
28	Noor Khan	male	nk12@gmail.com	1234567891	148 A Patna	Patna	Bihar	2021-09-04 00:16:35.59608	0000-00-00
29	Rapsan jani	male	rj12@gmail.com	8721110011	204 B Jaipur	Jaipur	Rajasthan	2021-09-04 00:20:50.23591	0000-00-00
30	Nura Khan	female	nk23@gmai.com	7610000101	215 D Andheri	Andheri	Mumbai	2021-09-04 00:22:44.76059	0000-00-00
31	Juhi Singh	female	js55@gmail.com	3333333333	New Delhi	New Delhi	Delhi	2021-09-04 00:23:42.82844	0000-00-00
32	Ameena Sheikh		as55@gmail.com	2222222222	ISBT Dehradun	Dehradun	Uttrakhand	2021-09-04 00:24:33.72620	0000-00-00

Data retrieval from the database- Previous Class



id	fullName	gender	email	mobile	address	city	state	created_at	updated_at
28	Noor Khan	male	nk12@gmail.com	1234567891	148 A Patna	Patna	Bihar	2021-09-04 00:16:35.59608	0000-00-00
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30	Nura Khan	female	nk23@gmai.com	7610000101	215 D Andheri	Andheri	Mumbai	2021-09-04 00:22:44.76059	0000-00-00
31	Juhi Singh	female	js55@gmail.com	3333333333	New Delhi	New Delhi	Delhi	2021-09-04 00:23:42.82844	0000-00-00
32	Ameena Sheikh		as55@gmail.com	2222222222	ISBT Dehradun	Dehradun	Uttrakhand	2021-09-04 00:24:33.72620	0000-00-00

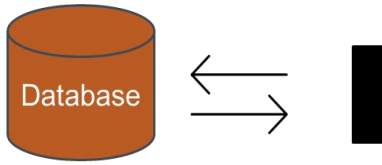
```php
<?php
  $servername = "localhost";
  $username = "root";
  $password = "";
  $databasename = "test";

  // CREATE CONNECTION
  $conn = new mysqli($servername,
    $username, $password, $databasename);

  // GET CONNECTION ERRORS
  if ($conn->connect_error) {
      die("Connection failed: " . $conn->connect_error);
  }

  // SQL QUERY
  $query = "SELECT * FROM `user_info`;";

  // FETCHING DATA FROM DATABASE
  $result = $conn->query($query);

    if ($result->num_rows > 0)
    {
        // OUTPUT DATA OF EACH ROW
        while($row = $result->fetch_assoc())
        {
            echo "ID No: " .
                $row["id"]. " First Name: " .
                $row["first_name"]. " | Last Name: " .
                $row["last_name"]. " | Age: " .
                $row["age"]. "<br>";
        }
    }
    else {
        echo "0 results";
    }

  $conn->close();
?>
```

localhost/fetchdata/readphp.php

ID No: 1 First Name: Abdul | Last Name: Majeed | Age: 32
ID No: 2 First Name: Ali | Last Name: Akter | Age: 32
ID No: 3 First Name: Ali | Last Name: Diyan | Age: 25

		id	first_name	last_name	age
☐	Edit Copy Delete	1	Abdul	Majeed	32
☐	Edit Copy Delete	2	Ali	Akter	32
☐	Edit Copy Delete	3	Ali	Diyan	25

Data retrieval from the database-**Few Selections Only**



id	fullName	gender	email	mobile	address	city	state	created_at	updated_at
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32	Ameena Sheikh		as55@gmail.com	2222222222	ISBT Dehradun	Dehradun	Uttrakhand	2021-09-04 00:24:33.72620	0000-00-00

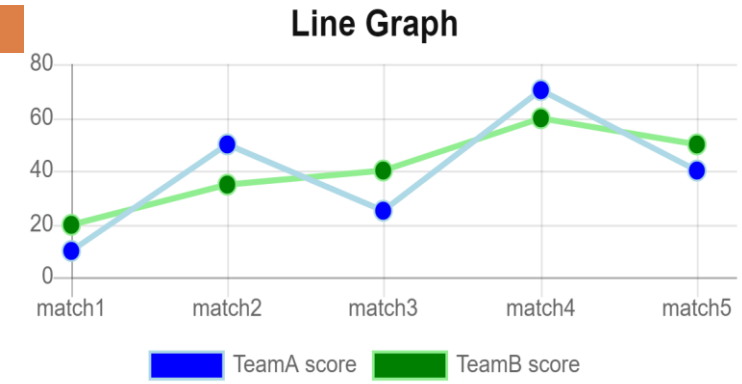
```php
// GET CONNECTION ERRORS
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

// SQL QUERY
$query = "SELECT First_Name,Last_Name FROM `myinformation`;";

// FETCHING DATA FROM DATABASE
$result = $conn->query($query);

  if ($result->num_rows > 0)
  {
      // OUTPUT DATA OF EACH ROW
      while($row = $result->fetch_assoc())
      {
          echo "ID No: " .

              $row["First_Name"]. " | Last Name: " .
              $row["Last_Name"];
      }
  }
  else {
      echo "0 results";
```

http://localhost/fetchdata/readphp.php

ID No: MUHAMMAD KAFEEL | Last Name: JAMIL

id	First_Name	Last_Name	Age	Gender	Address	University_Name	Semester #	GPA	Nationalty	Hobby
1	MUHAMMAD KAFEEL	JAMIL	24	MALE	DONT WANT TO REVEAL	GACHON	9	4	PAKISTAN	SKETCHING

Displaying static Data in Charts-Line Chart




```
<!DOCTYPE html>
<html>
<head>
    <title>ChartJS - Line</title>

    <link href="css/default.css" rel="stylesheet">

</head>
<body>

    <div class="chart-container">
        <canvas id="line-chartcanvas"></canvas>
    </div>

    <!-- javascript -->
    <script src="js/jquery.min.js"></script>
    <script src="js/Chart.min.js"></script>

    <script src="js/line.js"></script>

</body>
</html>
```

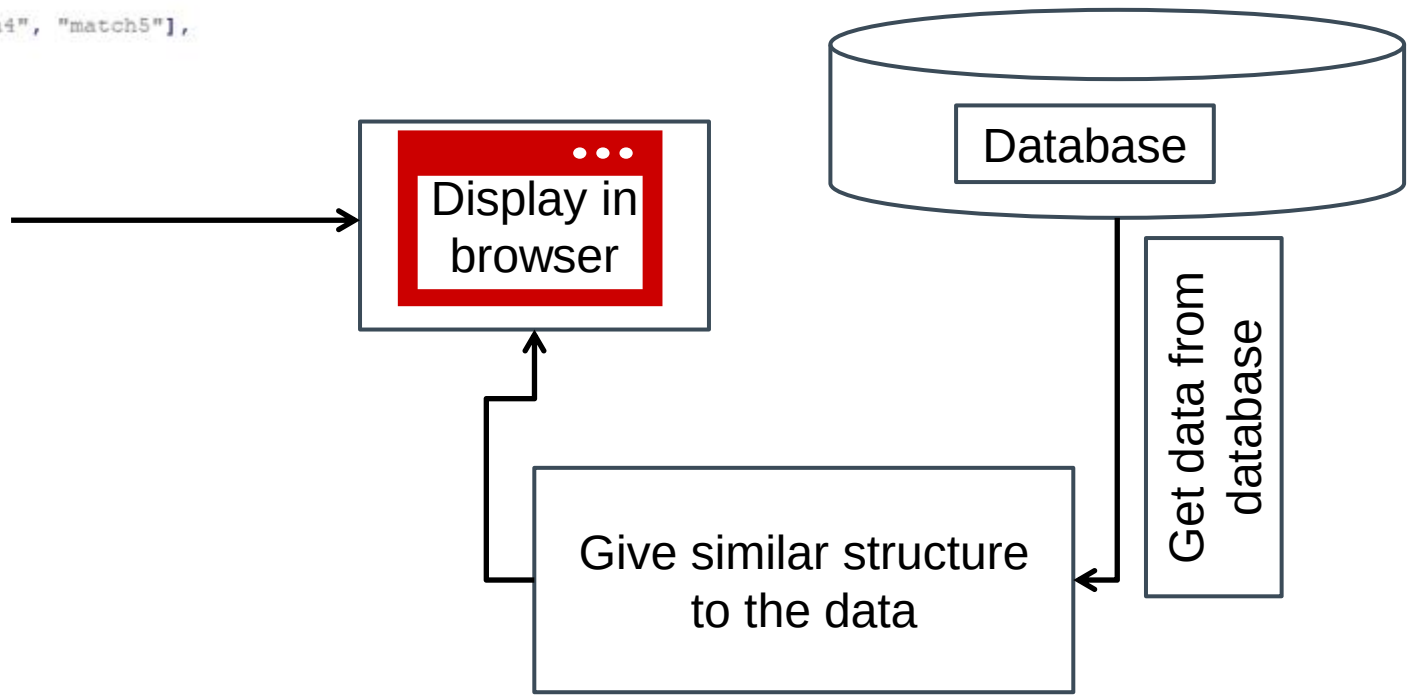
```
$(document).ready(function() {
    //get canvas
    var ctx = $("#line-chartcanvas");
    var data = {
        labels : ["match1", "match2", "match3", "match4", "match5"],
        datasets : [
            {
                label : "TeamA score",
                data : [10, 50, 25, 70, 40],
                backgroundColor : "blue",
                borderColor : "lightblue",
                fill : false,
                lineTension : 0,
                pointRadius : 5
            },
            {
                label : "TeamB score",
                data : [20, 35, 40, 60, 50],
                backgroundColor : "green",
                borderColor : "lightgreen",
                fill : false,
                lineTension : 0,
                pointRadius : 5
            }
        ]
    };
    var options = {
        title : {
            display : true,
            position : "top",
            text : "Line Graph",
            fontSize : 18,
            fontColor : "#111"
        },
        legend : {
            display : true,
            position : "bottom"
        }
    };

    var chart = new Chart( ctx, {
        type : "line",
        data : data,
        options : options
    } );
});
```

Displaying Dynamic Data in Charts-Line Chart

Previous class

This class

```
$(document).ready(function() {
    //get canvas
    var ctx = $("#line-chartcanvas");
    var data = {
        labels : ["match1", "match2", "match3", "match4", "match5"],
        datasets : [
            {
                label : "TeamA score",
                data : [10, 50, 25, 70, 40],
                backgroundColor : "blue",
                borderColor : "lightblue",
                fill : false,
                lineTension : 0,
                pointRadius : 5
            },
            {
                label : "TeamB score",
                data : [20, 35, 40, 60, 50],
                backgroundColor : "green",
                borderColor : "lightgreen",
                fill : false,
                lineTension : 0,
                pointRadius : 5
            }
        ]
    };
```



Goals of this work-DB Integrated Charts

Task 1: Database Creation

1-Creating Database

1. Open **PHPMyAdmin** in your Browser
2. Click on Database Tab Display on Topside
3. Give the Database name “graph”.
4. After Creating **Database** Open it.
5. Click on SQL Tab on Top area
6. Copy the Below **Source Code** and paste it.
7. Then Click on Go.

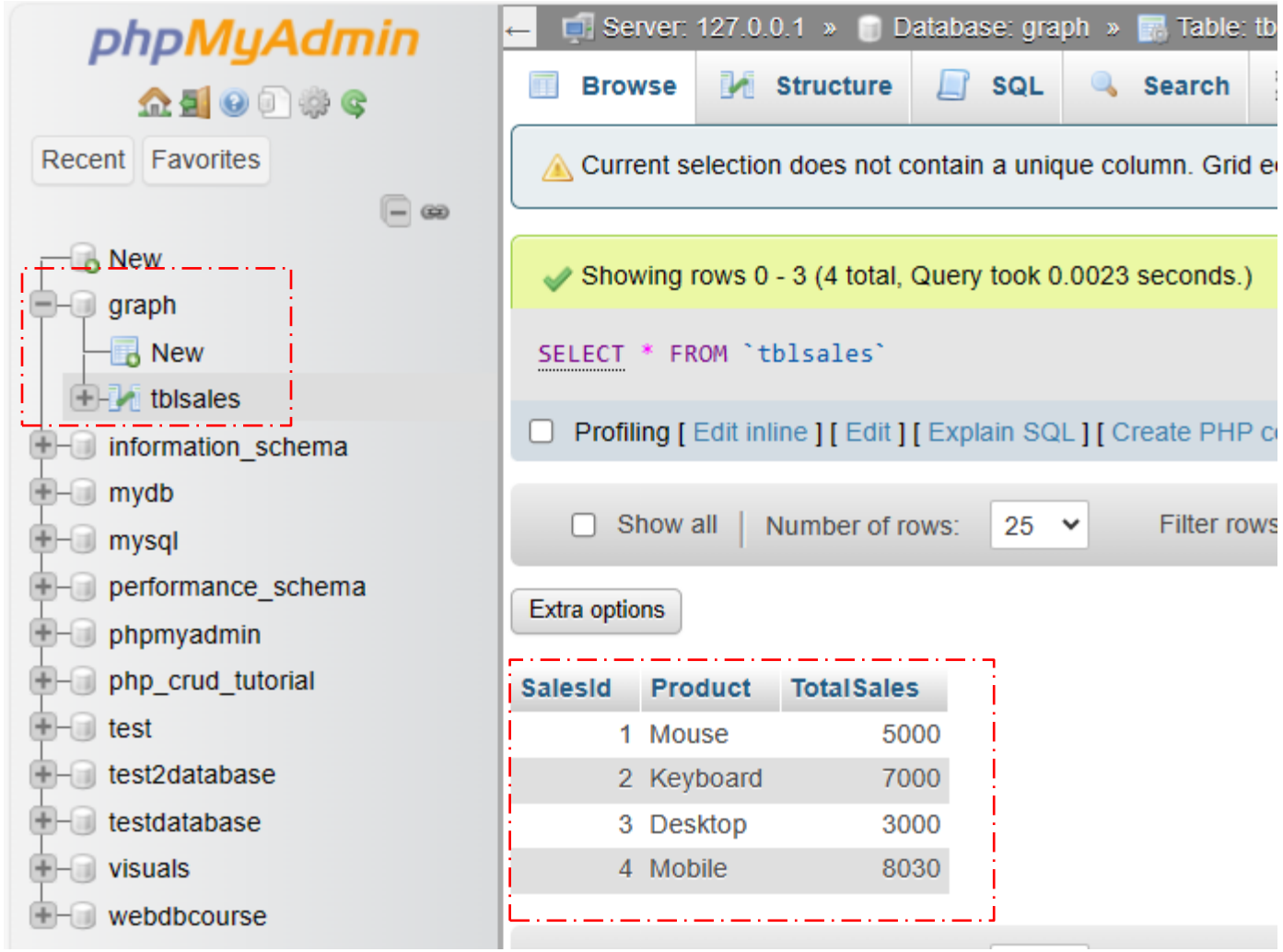
Task 1: Database Creation-Table Creation

```
CREATE TABLE `tblsales` (
`SalesId` int(11) NOT NULL,
`Product` varchar(90) NOT NULL,
`TotalSales` double NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

Task 1: Database Creation-Data Insertion

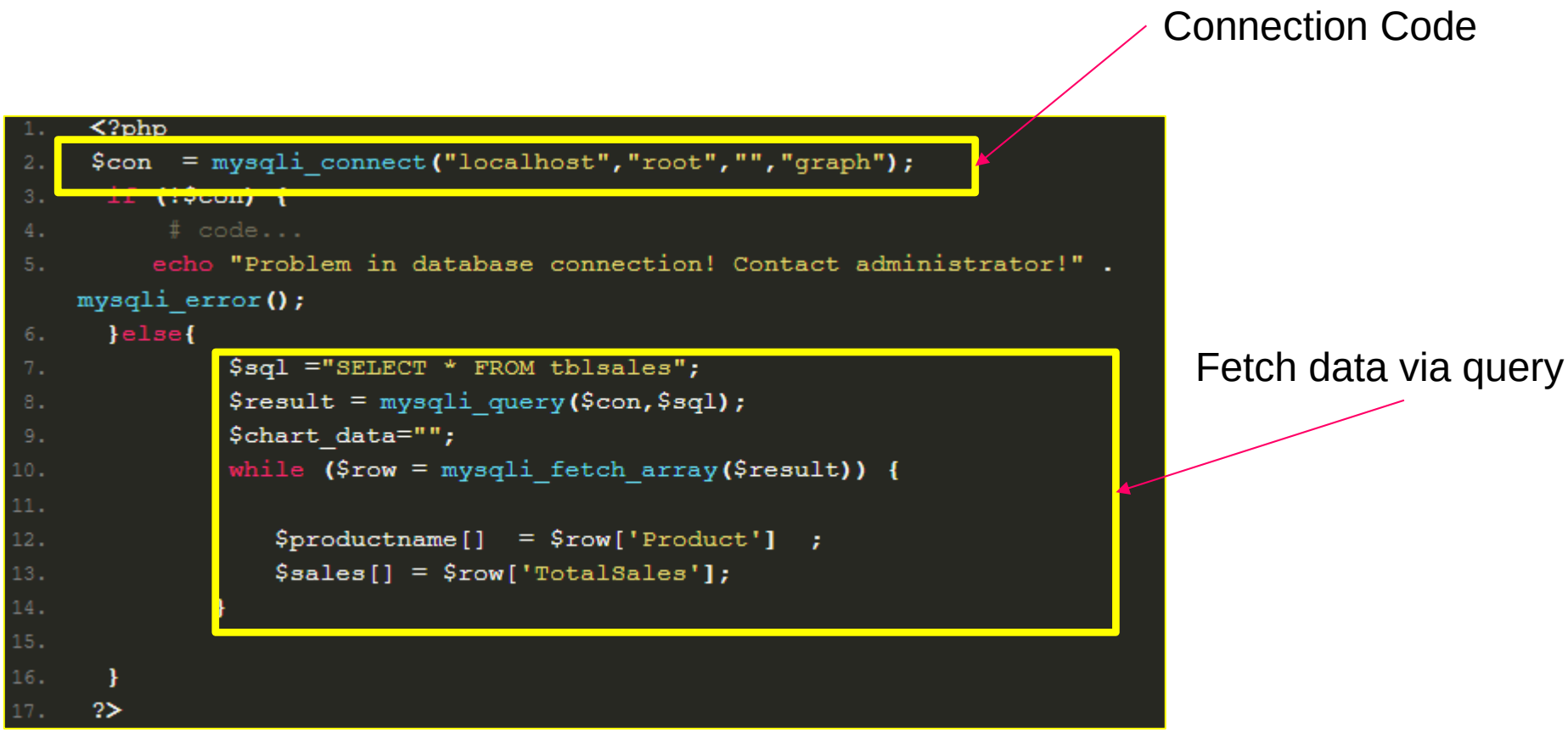
```
INSERT INTO `tblsales` (`SalesId`, `Product`, `TotalSales`)
VALUES
(1, 'Mouse', 5000),
(2, 'Keyboard', 7000),
(3, 'Desktop', 3000),
(4, 'Mobile', 8030);
```

Task 1: Database Creation-Output



Task 2: Create Database Connection & Fetch Data

- The next step is creating database connection and fetch data from MySQL Database using PHP copy the below code and save it is as “record.php”.

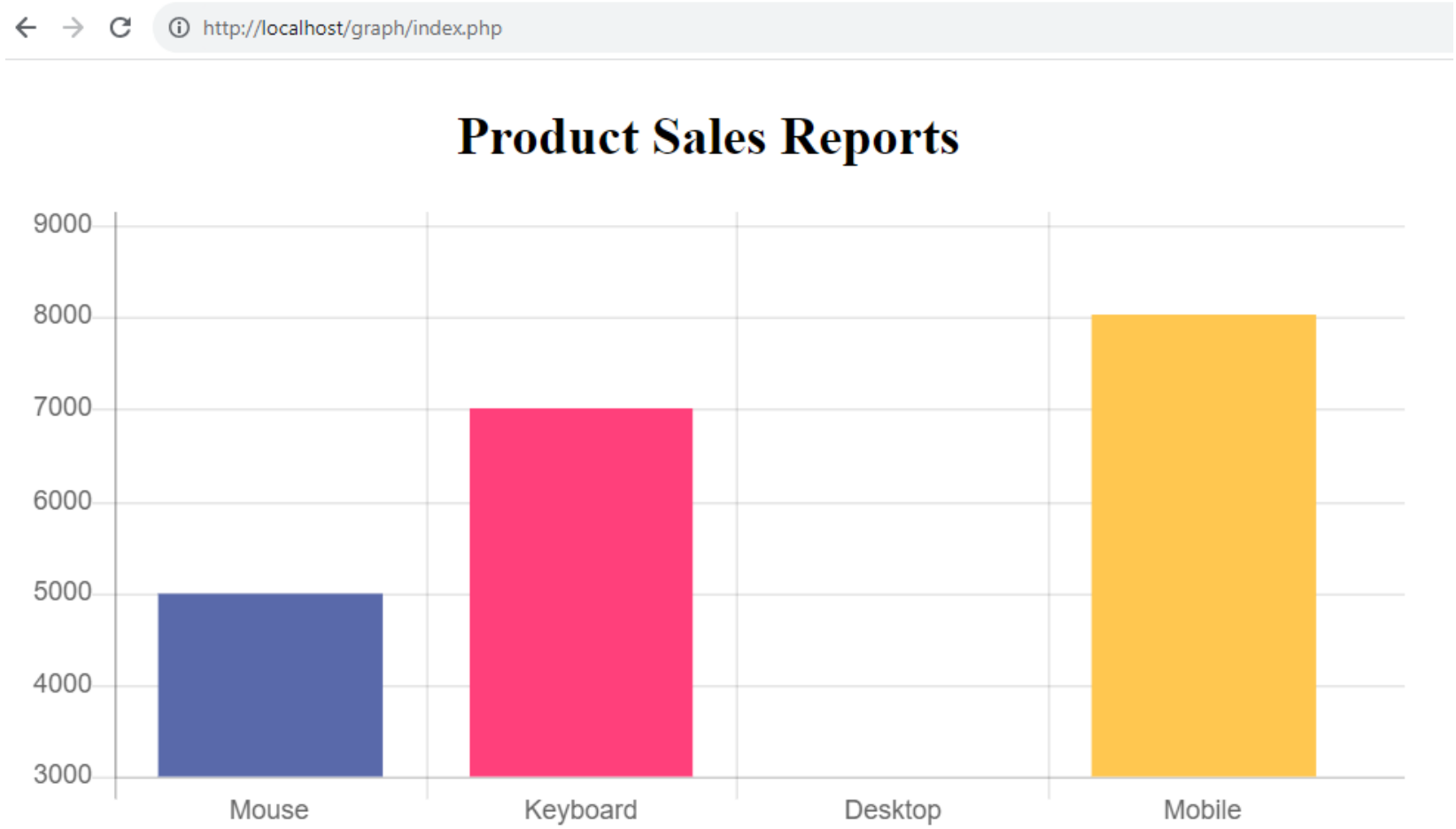


Task 3: Create Landing Page-Index Page

- In this step we are going to create an index page where we will create JavaScript code to show database data in a graph. Here is the source code and save it as index.php.

```
<!DOCTYPE html>
<html lang="en">
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
        <meta name="viewport" content="width=device-width, initial-scale=1.0"
        <title>Graph</title>
    </head>
    <body>
        <div style="width:60%;hieght:20%;text-align:center">
            <h2 class="page-header" >Product Sales Reports </h2>
            <p style="align:center;"><canvas  id="chartjs_bar"></canvas></p>
        </div>
    </body>
  <script src="js/jquery.js"></script>
  <script src="js/Chart.min.js"></script>
<script type="text/javascript">
      var ctx = document.getElementById("chartjs_bar").getContext('2d');
                var myChart = new Chart(ctx, {
                    type: 'bar',
                    data: {
                        labels:<?php echo json_encode($productname); ?>,
                        datasets: [{
                            backgroundColor: [
                               "#5969aa",
                                "#ff407b",
                                "#25d5f2",
                                "#ffc750"
                            ],
                            data:<?php echo json_encode($sales); ?>,
                        }]
                    },
                    options: {
                           legend: {
                        display: true,
                        position: 'bottom',

                        labels: {
                            fontColor: '#71748d',
                            fontFamily: 'Circular Std Book',
                            fontSize: 14,
                        }
                    },
                }
                });
    </script>
</html>
```

Task 4: Run the whole Application



https://www.sourcecodessite.com/how-to-create-graph-in-php-using-mysql-database/

Explanation of the Entire code

```php
<?php
$con  = mysqli_connect("localhost","root","","graph");
 if (!$con) {
    # code...
    echo "Problem in database connection! Contact administrator!" . mysqli_error();
 }else{
        $sql ="SELECT * FROM tblsales";
        $result = mysqli_query($con,$sql);
        $chart_data="";
        while ($row = mysqli_fetch_array($result)) {

           $productname[]  = $row['Product']  ;
           $sales[] = $row['TotalSales'];
       }


 }


?>
```

SalesId	Product	TotalSales
1	Mouse	5000
2	Keyboard	7000
3	Desktop	3000
4	Mobile	8030

Server side

Database

Client-side data

```html
<!DOCTYPE html>
<html lang="en">
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
        <meta name="viewport" content="width=device-width, initial-scale=1.0"
        <title>Graph</title>
    </head>
    <body>
        <div style="width:60%;hieght:20%;text-align:center">
            <h2 class="page-header" >Product Sales Reports </h2>
            <p style="align:center;"><canvas  id="chartjs_bar"></canvas></p>
        </div>
    </body>
  <script src="js/jquery.js"></script>
  <script src="js/Chart.min.js"></script>
<script type="text/javascript">
      var ctx = document.getElementById("chartjs_bar").getContext('2d');
                var myChart = new Chart(ctx, {
                    type: 'bar',
                    data: {
                        labels:<?php echo json_encode($productname); ?>,
                        datasets: [{
                            backgroundColor: [
                               "#5969aa",
                                "#ff407b",
                                "#25d5f2",
                                "#ffc750"
                            ],
                            data:<?php echo json_encode($sales); ?>,
                        }]
                    },
                    options: {
                           legend: {
                        display: true,
                        position: 'bottom',

                        labels: {
                            fontColor: '#71748d',
                            fontFamily: 'Circular Std Book',
                            fontSize: 14,
                        }
                    },
                }
                });
    </script>
</html>
```

2nd Example

Area Chart

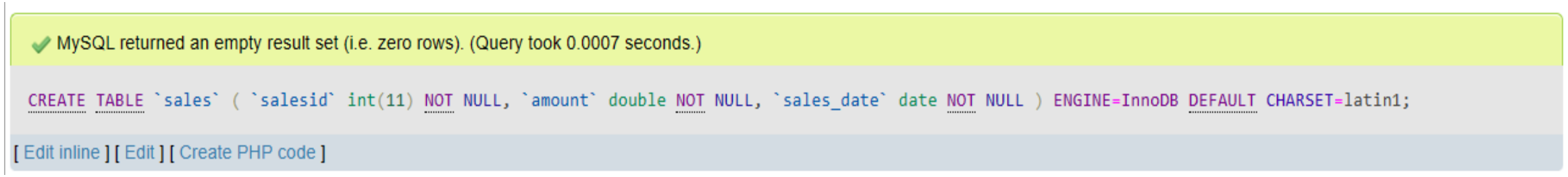
Task 1: Database Creation

1-Creating Database

1. Open **PHPMyAdmin** in your Browser
2. Click on Database Tab Display on Topside
3. Give the Database name “jschart”.
4. After Creating **Database** Open it.
5. Click on SQL Tab on Top area
6. Copy the Below **Source Code** and paste it.
7. Then Click on Go.

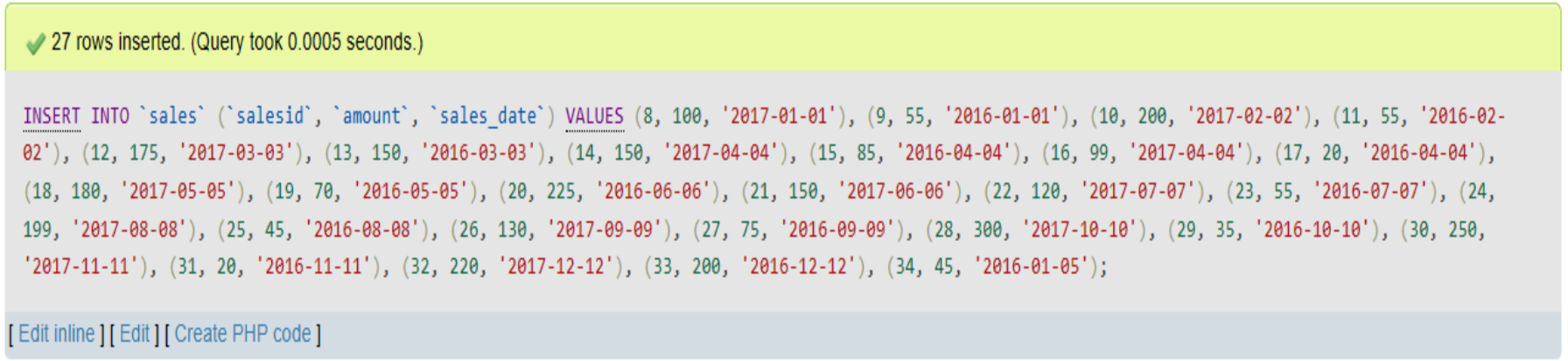
Task 1: Database Creation-Table Creation

```
CREATE TABLE `sales` (
  `salesid` int(11) NOT NULL,
  `amount` double NOT NULL,
  `sales_date` date NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```



Task 1: Database Creation-Data Insertion

```
INSERT INTO `sales` (`salesid`, `amount`, `sales_date`) VALUES
(8, 100, '2017-01-01'),
(9, 55, '2016-01-01'),
(10, 200, '2017-02-02'),
(11, 55, '2016-02-02'),
(12, 175, '2017-03-03'),
(13, 150, '2016-03-03'),
(14, 150, '2017-04-04'),
(15, 85, '2016-04-04'),
(16, 99, '2017-04-04'),
(17, 20, '2016-04-04'),
(18, 180, '2017-05-05'),
(19, 70, '2016-05-05'),
(20, 225, '2016-06-06'),
(21, 150, '2017-06-06'),
(22, 120, '2017-07-07'),
(23, 55, '2016-07-07'),
(24, 199, '2017-08-08'),
(25, 45, '2016-08-08'),
(26, 130, '2017-09-09'),
(27, 75, '2016-09-09'),
(28, 300, '2017-10-10'),
(29, 35, '2016-10-10'),
(30, 250, '2017-11-11'),
(31, 20, '2016-11-11'),
(32, 220, '2017-12-12'),
(33, 200, '2016-12-12'),
(34, 45, '2016-01-05');
```



Task 1: Database Creation-Table Structure Modification

```
--
-- Indexes for table `sales`
--
ALTER TABLE `sales`
  ADD PRIMARY KEY (`salesid`);

--
-- AUTO_INCREMENT for dumped tables
--


--
-- AUTO_INCREMENT for table `sales`
--
ALTER TABLE `sales`
  MODIFY `salesid` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=35;
COMMIT;

/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
```

Task 1: Database Creation-Table Structure Modification

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0006 seconds.)

```
ALTER TABLE `sales` ADD PRIMARY KEY (`salesid`);
```

[Edit inline] [Edit] [Create PHP code]

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0006 seconds.)

```
-- -- AUTO_INCREMENT for dumped tables -- -- -- AUTO_INCREMENT for table `sales` -- ALTER TABLE `sales` MODIFY `salesid` int(11) NOT NULL AUTO_INCREMENT,
AUTO_INCREMENT=35;
```

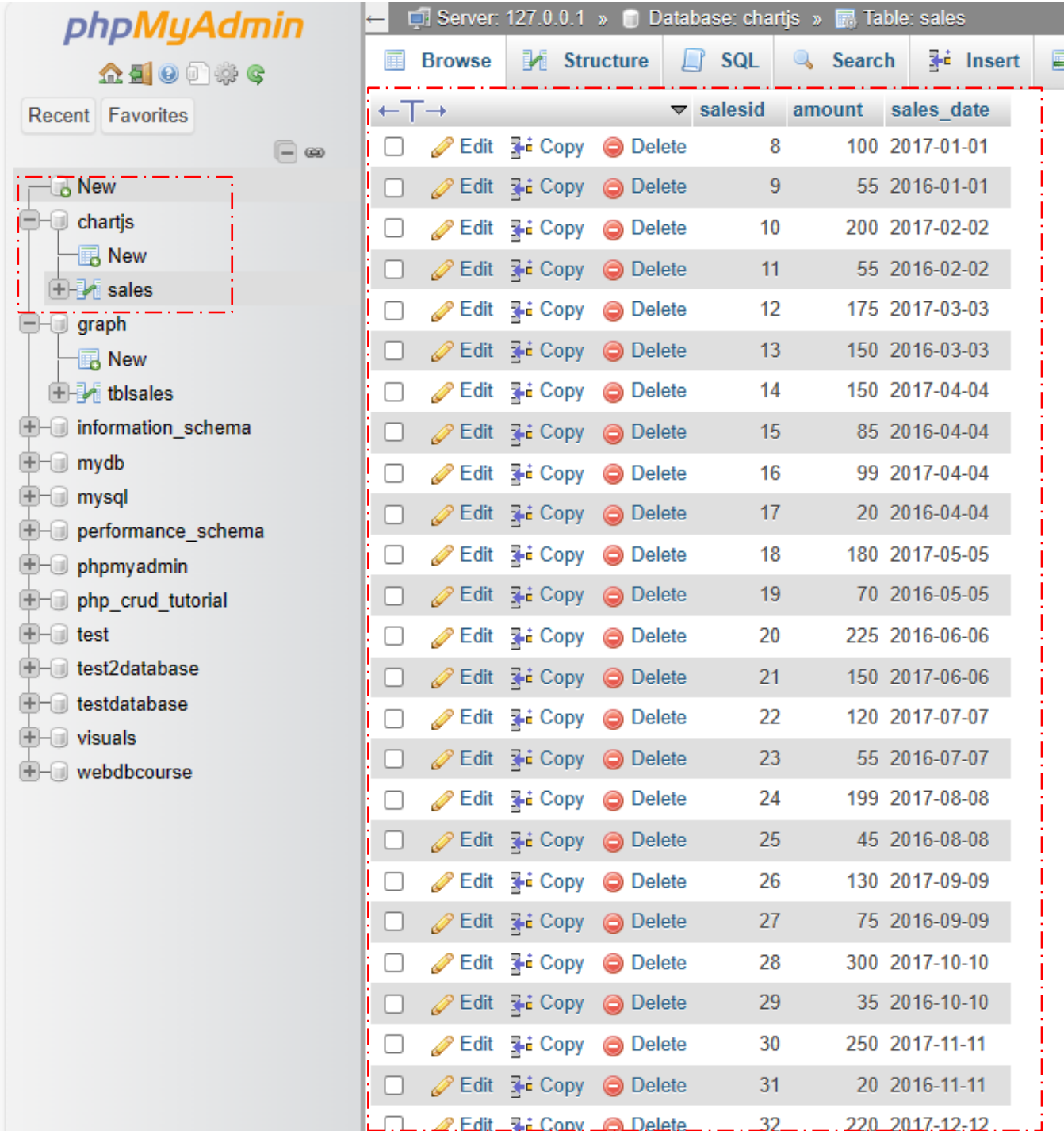
[Edit inline] [Edit] [Create PHP code]

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0002 seconds.)

```
COMMIT;
```

[Edit inline] [Edit] [Create PHP code]

Task 1: Database Creation-Output



Task 2: Create Database Connection & Fetch Data

- The next step is creating database connection and fetch data from MySQL Database using PHP copy the below code and save it is as “record.php”.

```php
<?php
    $conn = new mysqli("localhost", "root", "", "chartjs");

    if ($conn->connect_error) {
        die("Connection failed: " . $conn->connect_error);
    }
    //set timezone
    //date_default_timezone_set('Asia/Manila');
    $year = date('Y');
    $total=array();
    for ($month = 1; $month <= 12; $month ++){
        $sql="select *, sum(amount) as total from sales where month(sales_date)='$month' and year(sales_date)='$year'"
        $query=$conn->query($sql);
        $row=$query->fetch_array();

        $total[]=$row['total'];
    }
    $tjan = $total[0];
    $tfeb = $total[1];
    $tmar = $total[2];
    $tapr = $total[3];
    $tmay = $total[4];
    $tjun = $total[5];
    $tjul = $total[6];
    $taug = $total[7];
    $tsep = $total[8];
    $toct = $total[9];
    $tnov = $total[10];
    $tdec = $total[11];
    $pyear = $year - 1;
    $pnum=array();
```

Connection

Fetch data

Task 2: Create Database Connection & Fetch Data

The next step is creating database connection and fetch data from MySQL Database using PHP copy the below code and save it is as “record.php”.

Fetch data

```php
for ($pmonth = 1; $pmonth <= 12; $pmonth ++){
    $sql="select *, sum(amount) as ptotal from sales where month(sales_date)='$pmonth' and year(sales_date)='$pyear'
    $pquery=$conn->query($sql);
    $prow=$pquery->fetch_array();
    $ptotal[]=$prow['ptotal'];
}
$pjan = $ptotal[0];
$pfeb = $ptotal[1];
$pmar = $ptotal[2];
$papr = $ptotal[3];
$pmay = $ptotal[4];
$pjun = $ptotal[5];
$pjul = $ptotal[6];
$paug = $ptotal[7];
$psep = $ptotal[8];
$poct = $ptotal[9];
$pnov = $ptotal[10];
$pdec = $ptotal[11];
?>
```

Task 3: Create Landing Page-Index Page

- In this step we are going to create index page where create JavaScript code to show database data in a graph. here the source code. and save it as index.php.

```
<head>
    <title>Area Chart using Chart.js with PHP/MySQLi</title>
    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css" />
    <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.1.0/jquery.min.js"></script>
    <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"></script>

    <!-- ChartJS -->
    <script src="chart.js/Chart.js"></script>
</head>
<body>
<div class="container">
    <h1 class="page-header text-center">Area Chart using Chart.js with PHP/MySQLi</h1>
    <div class="row">
        <div class="col-md-3">
            <h3 class="page-header text-center">Add Sales</h3>
            <form method="POST" action="addsales.php">
                <div class="form-group">
                    <label>Amount:</label>
                    <input type="text" class="form-control" name="amount" required>
                </div>
                <div class="form-group">
                    <label>Date:</label>
                    <input type="date" class="form-control" name="sales_date" required>
                </div>
                <button type="submit" class="btn btn-primary"><span class="glyphicon glyphicon-floppy-disk"></span> Save</button>
            </form>
        </div>
        <div class="col-md-9">
            <div class="box box-success">
            <div class="box-header with-border">
                <?php
                    //set timezone
                        //date_default_timezone_set('Asia/Manila');
                        $year = date('Y');
                ?>
              <h3 class="box-title">Sales Report (<?php echo $year-1; ?> vs <?php echo $year; ?>)</h3>

            </div>
            <div class="box-body">
              <div class="chart">
                <canvas id="areaChart" style="height:250px"></canvas>
              </div>
            </div>
            <!-- /.box-body -->
        </div>
        </div>
    </div>
</div>
```

Task 3: Create Landing Page-Index Page

- In this step we are going to create index page where we need to write JavaScript code to show database data in a graph. here the source code. and save it as index.php.

```
data                : [ "<?php echo $tjan; ?>",
                        "<?php echo $tfeb; ?>",
                        "<?php echo $tmar; ?>",
                        "<?php echo $tapr; ?>",
                        "<?php echo $tmay; ?>",
                        "<?php echo $tjun; ?>",
                        "<?php echo $tjul; ?>",
                        "<?php echo $taug; ?>",
                        "<?php echo $tsep; ?>",
                        "<?php echo $toct; ?>",
                        "<?php echo $tnov; ?>",
                        "<?php echo $tdec; ?>"
                      ]
```

```
data                : [ "<?php echo $pjan; ?>",
                        "<?php echo $pfeb; ?>",
                        "<?php echo $pmar; ?>",
                        "<?php echo $papr; ?>",
                        "<?php echo $pmay; ?>",
                        "<?php echo $pjun; ?>",
                        "<?php echo $pjul; ?>",
                        "<?php echo $paug; ?>",
                        "<?php echo $psep; ?>",
                        "<?php echo $poct; ?>",
                        "<?php echo $pnov; ?>",
                        "<?php echo $pdec; ?>"
                      ]
```

Task 3: Create Landing Page-Index Page

```
var areaChartOptions = {
  //Boolean - If we should show the scale at all
  showScale               : true,
  //Boolean - Whether grid lines are shown across the chart
  scaleShowGridLines      : false,
  //String - Colour of the grid lines
  scaleGridLineColor      : 'rgba(0,0,0,.05)',
  //Number - Width of the grid lines
  scaleGridLineWidth      : 1,
  //Boolean - Whether to show horizontal lines (except X axis)
  scaleShowHorizontalLines: true,
  //Boolean - Whether to show vertical lines (except Y axis)
  scaleShowVerticalLines  : true,
  //Boolean - Whether the line is curved between points
  bezierCurve             : true,
  //Number - Tension of the bezier curve between points
  bezierCurveTension      : 0.3,
  //Boolean - Whether to show a dot for each point
  pointDot                : false,
  //Number - Radius of each point dot in pixels
  pointDotRadius          : 4,
  //Number - Pixel width of point dot stroke
  pointDotStrokeWidth     : 1,
  //Number - amount extra to add to the radius to cater for hit detection outside the drawn point
  pointHitDetectionRadius : 20,
  //Boolean - Whether to show a stroke for datasets
  datasetStroke           : true,
  //Number - Pixel width of dataset stroke
  datasetStrokeWidth      : 2,
  //Boolean - Whether to fill the dataset with a color
  datasetFill             : true,
  //String - A legend template
  legendTemplate          : '<ul class="<%=name.toLowerCase()%>-legend"><% for (var i=0; i<datasets.length; i++){%><li><span style="background-color:<%=datasets[i].lineColor%>"><
  //Boolean - whether to maintain the starting aspect ratio or not when responsive, if set to false, will take up entire container
  maintainAspectRatio     : true,
  //Boolean - whether to make the chart responsive to window resizing
  responsive              : true
}
//Create the line chart
areaChart.Line(areaChartData, areaChartOptions)
})
```

Area Chart using Chart.js with PHP/MySQLi

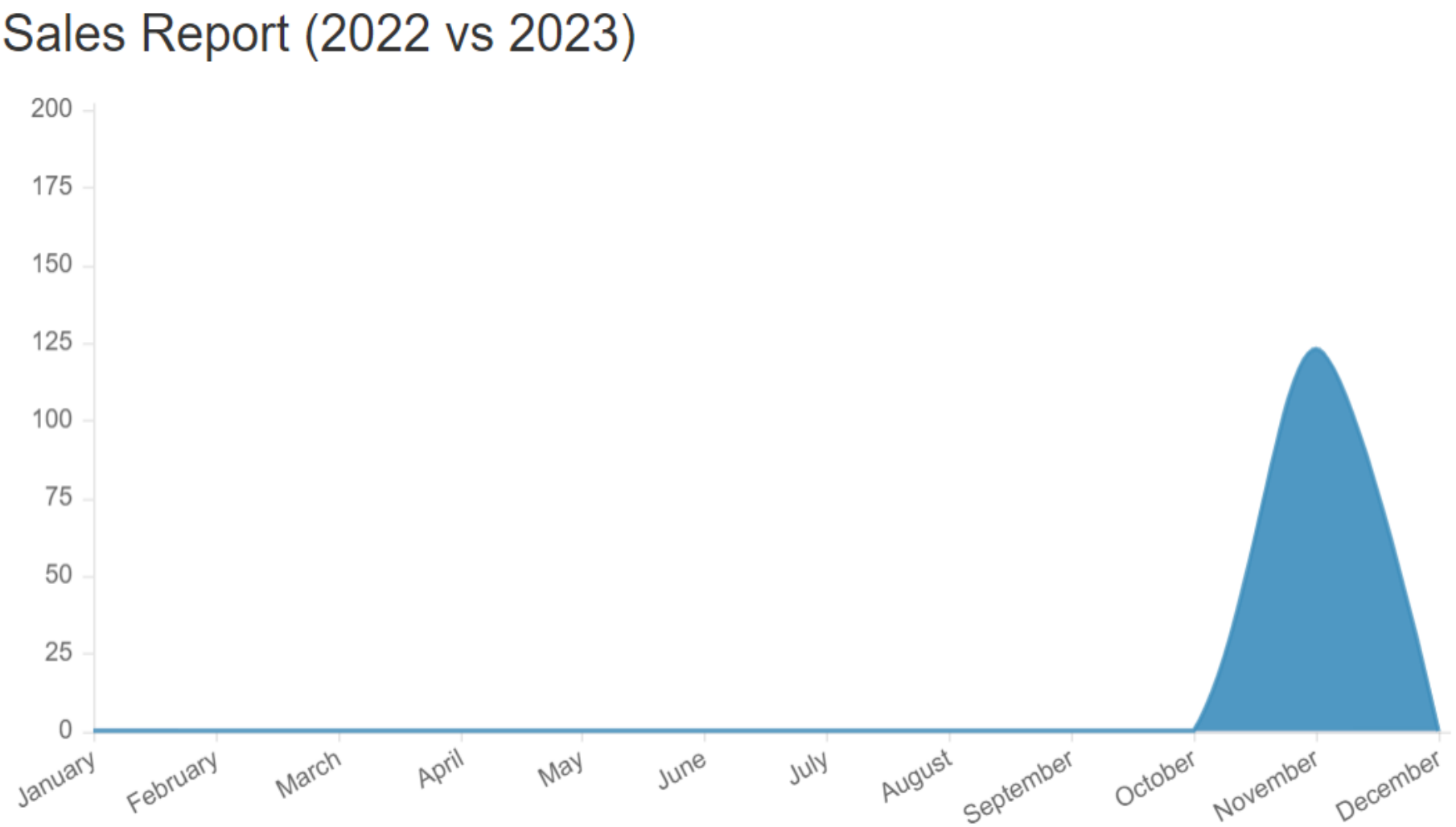
Add Sales

Amount:

Date:

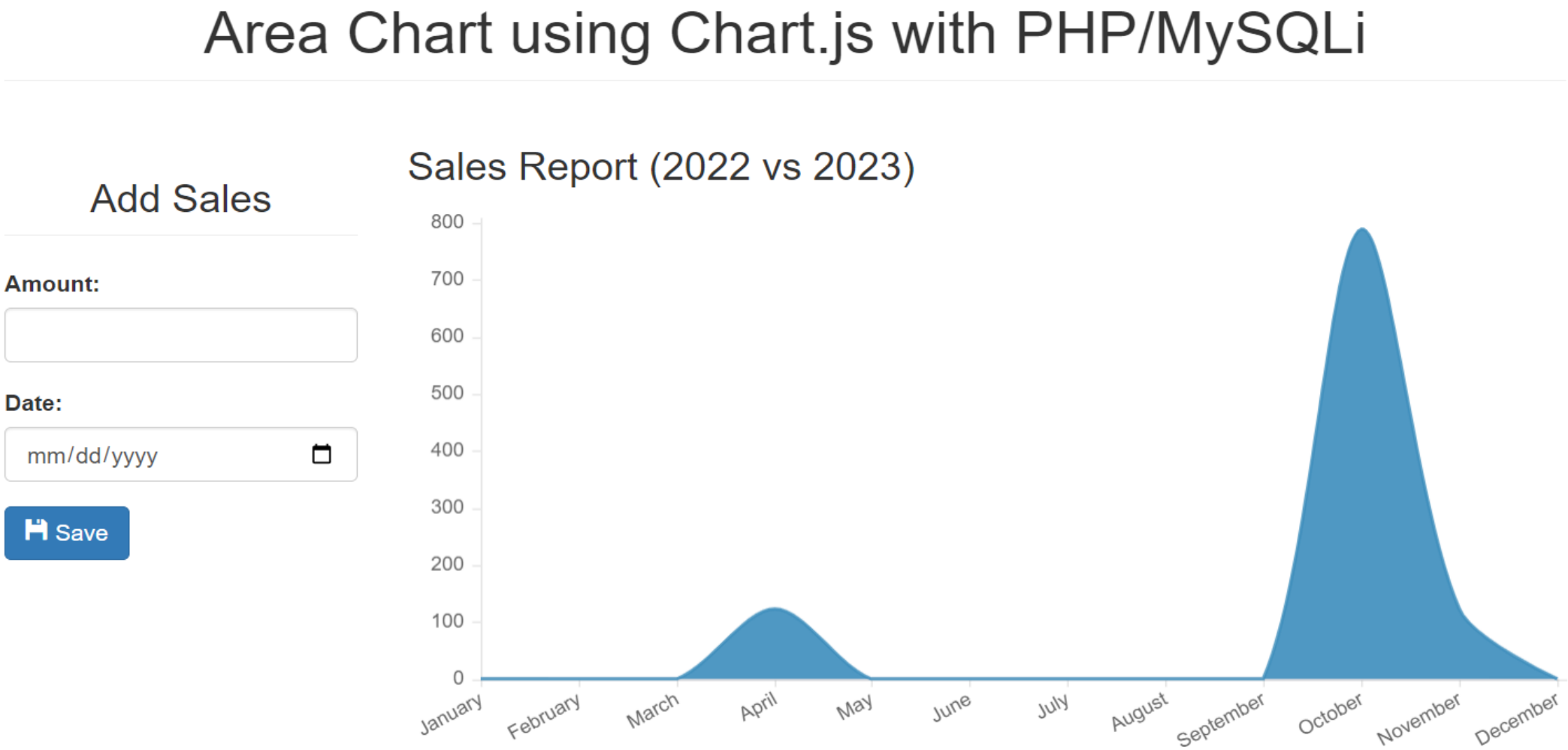
mm/dd/yyyy

Save

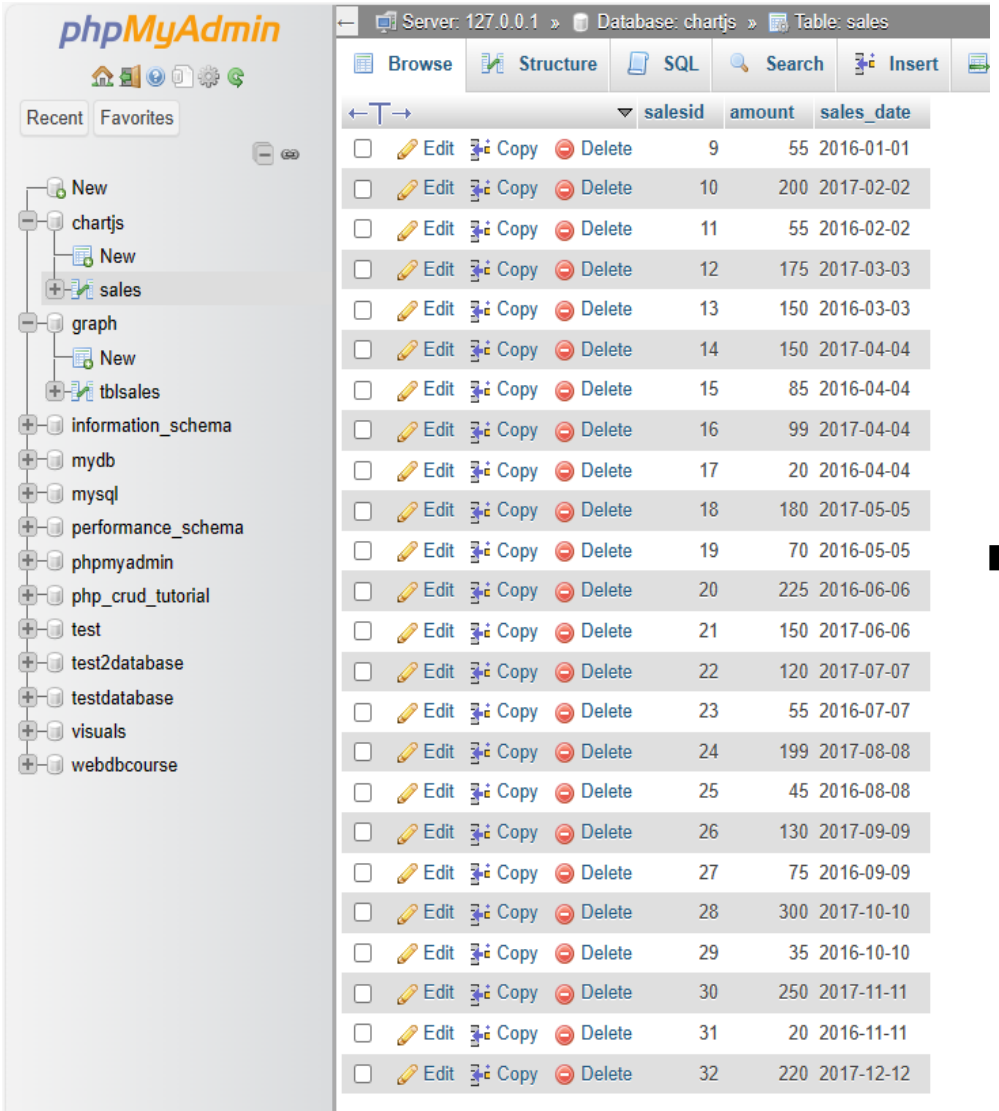


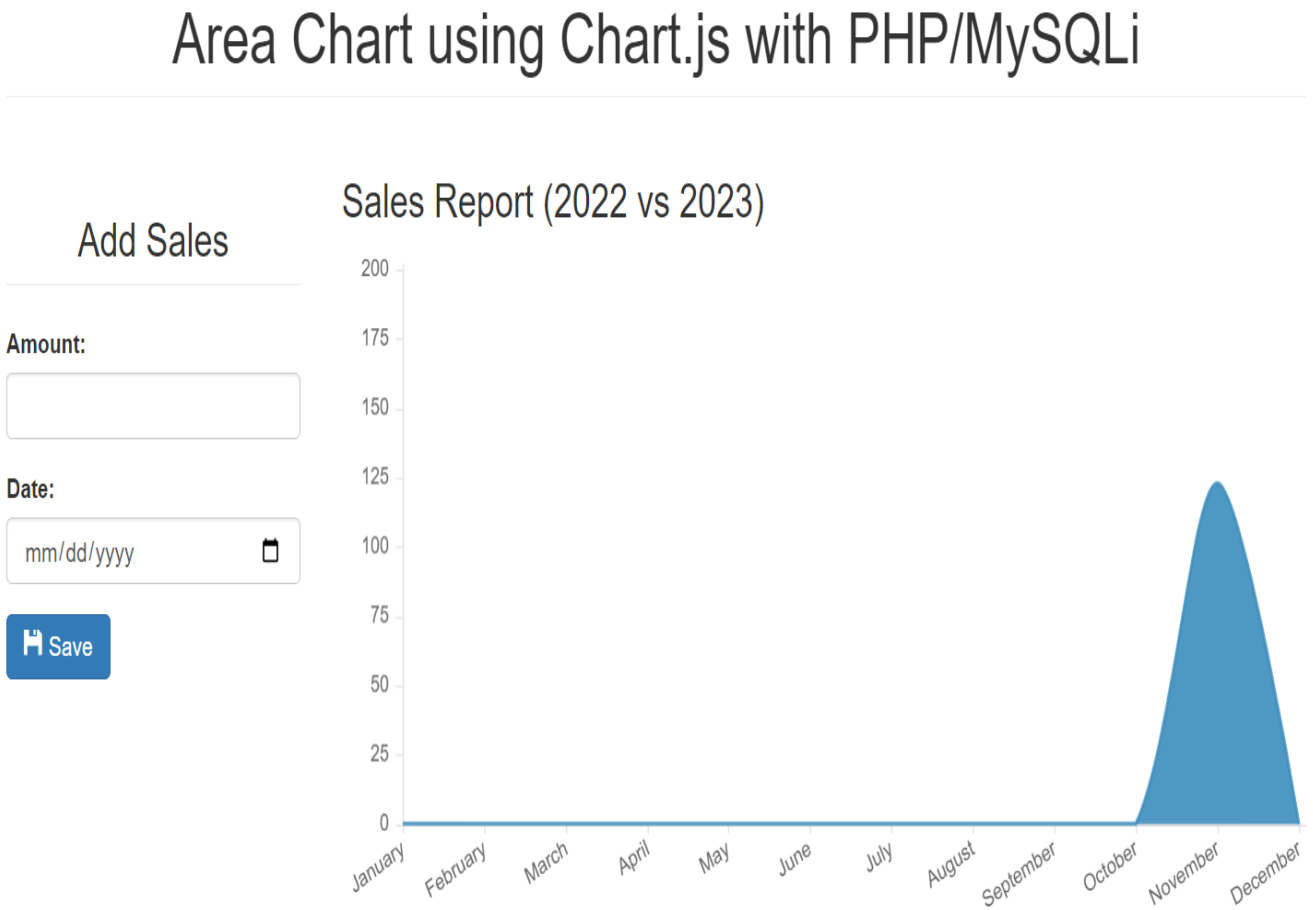
https://www.sourcecodester.com/download-code?nid=11887&title=Creating+an+Area+Chart+using+Chart.js+with+PHP%2FMySQLi

Dynamic Chart- Gets updated based on the data



Output of the Entire code





3rd Example

Simple Line Chart

Requirements of working with the charts

- We will need the following items to complete this tutorial.
  - Text Editor like SublimeText, TextMate, Coda, NotePad++ or IDE like Eclipse
  - Web Browser like Chrome or Firefox
  - PHP development environment on your localhost. For this you can use XAMPP (Windows/Linux/OS X users) or MAMP (Windows/OS X users)
    - MySQL
    - ChartJS
    - jQuery

Step 1: Database Creation & Data Insertion

followers table

```
CREATE TABLE `followers` (
    `userid` INT(10) UNSIGNED NOT NULL AUTO_INCREMENT,
    `facebook` INT(11) DEFAULT '0',
    `twitter` INT(11) DEFAULT '0',
    `googleplus` INT(11) DEFAULT '0',
    PRIMARY KEY (`userid`)
)  ENGINE=INNODB DEFAULT CHARSET=UTF8;
```

followers table data

```
INSERT INTO `followers`
VALUES
(1, 100, 200, 80),
(2, 60,  150, 180),
(3, 50,  90,  120);
```

Connecting with DB & fetching Data

```php
<?php
//setting header to json
header('Content-Type: application/json');

//database
define('DB_HOST', '127.0.0.1');
define('DB_USERNAME', 'root');
define('DB_PASSWORD', 'root123');
define('DB_NAME', 'mydb');

//get connection
$mysqli = new mysqli(DB_HOST, DB_USERNAME, DB_PASSWORD, DB_NAME

if(!$mysqli){
  die("Connection failed: " . $mysqli->error);
}

//query to get data from the table
$query = sprintf("SELECT userid, facebook, twitter, googleplus

//execute query
$result = $mysqli->query($query);

//loop through the returned data
$data = array();
foreach ($result as $row) {
  $data[] = $row;
}

//free memory associated with result
$result->close();

//close connection
$mysqli->close();

//now print the data
print json_encode($data);
```

Output of the Results from Database-JSON Format


```
[
  {
    "userid" : "1",
    "facebook" : "100",
    "twitter" : "200",
    "googleplus" : "80"
  },
  {
    "userid" : "2",
    "facebook" : "60",
    "twitter" : "150",
    "googleplus" : "180"
  },
  {
    "userid" : "3",
    "facebook" : "50",
    "twitter" : "90",
    "googleplus" : "120"
  }
]
```


https://dyclassroom.com/chartjs/chartjs-how-to-draw-line-graph-using-data-from-mysql-table-and-php

Creating the Landing Page-Index Page

```
<!DOCTYPE html>
<html>
  <head>
    <title>ChartJS - LineGraph</title>
    <style>
      .chart-container {
        width: 640px;
        height: auto;
       }
    </style>
  </head>
  <body>
    <div class="chart-container">
      <canvas id="mycanvas"></canvas>
    </div>

    <!-- javascript -->
    <script type="text/javascript" src="js/jquery.min.js"></scr
    <script type="text/javascript" src="js/Chart.min.js"></scri
    <script type="text/javascript" src="js/linegraph.js"></scri
  </body>
</html>
```

https://dyclassroom.com/chartjs/chartjs-how-to-draw-line-graph-using-data-from-mysql-table-and-php

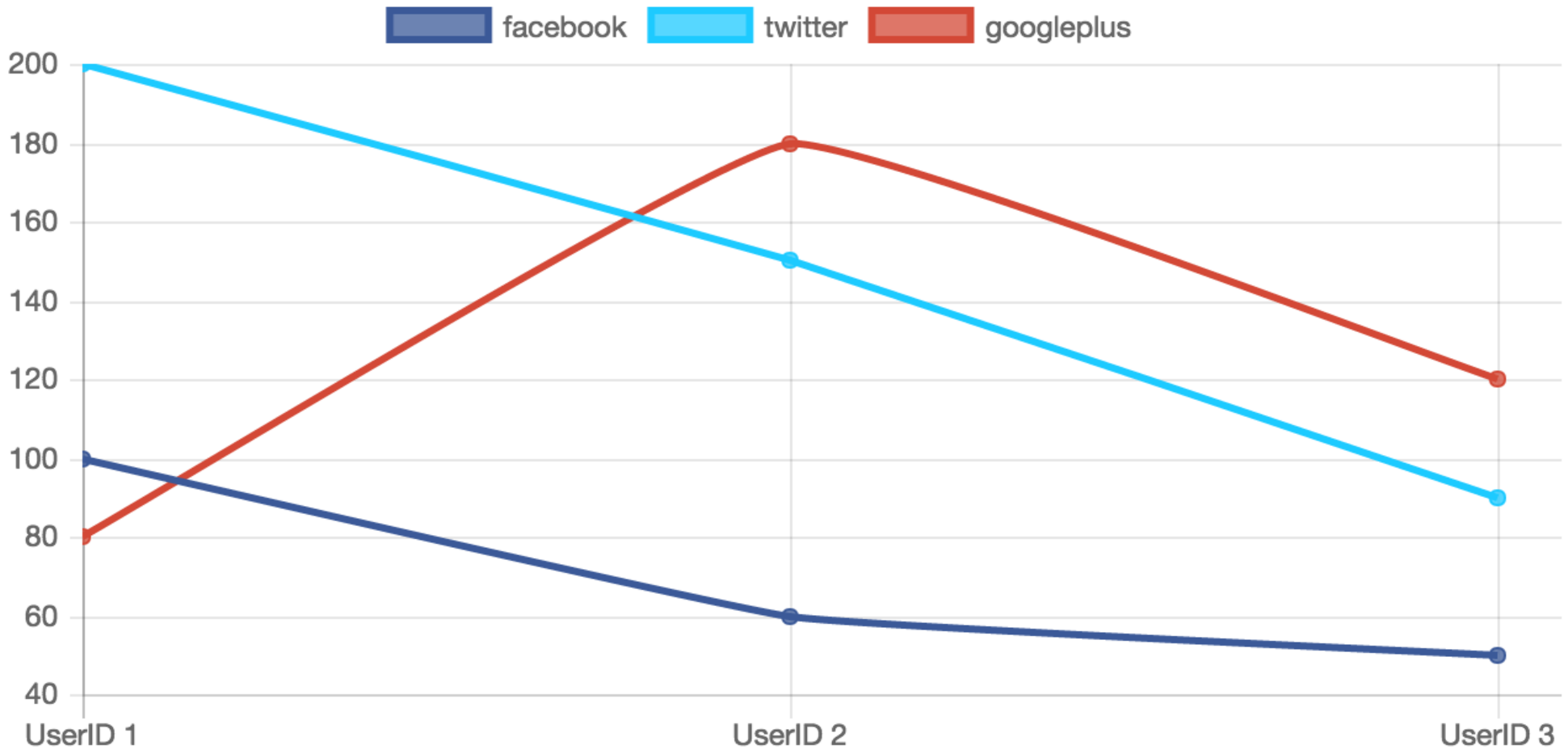
Preparing data for the plot

```
var chartdata = {
  labels: userid,
  datasets: [
    {
      label: "facebook",
      fill: false,
      lineTension: 0.1,
      backgroundColor: "rgba(59, 89, 152, 0.75)",
      borderColor: "rgba(59, 89, 152, 1)",
      pointHoverBackgroundColor: "rgba(59, 89, 152, 1)",
      pointHoverBorderColor: "rgba(59, 89, 152, 1)",
      data: facebook_follower
    },
```

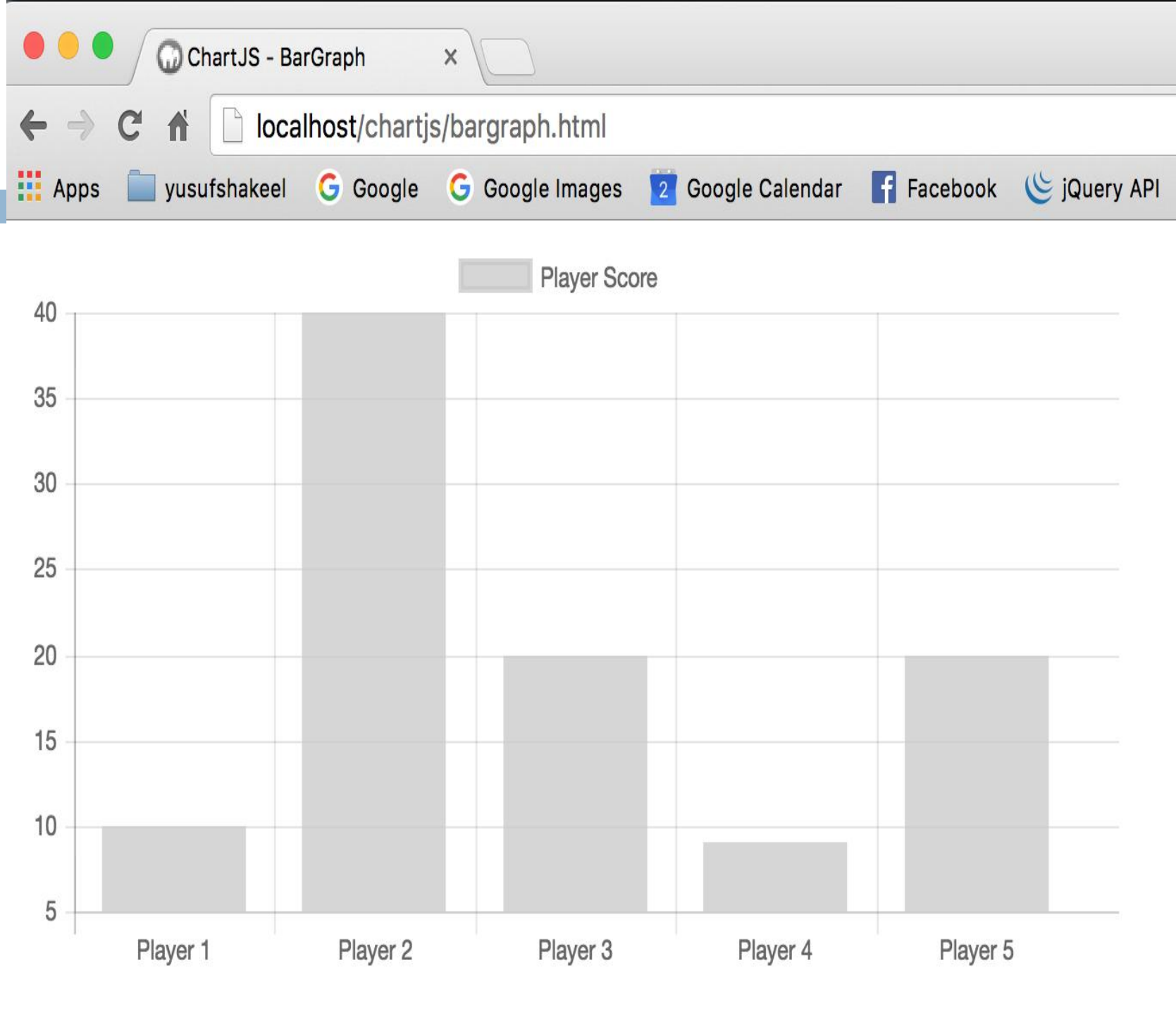
```
    {
      label: "twitter",
      fill: false,
      lineTension: 0.1,
      backgroundColor: "rgba(29, 202, 255, 0.75)",
      borderColor: "rgba(29, 202, 255, 1)",
      pointHoverBackgroundColor: "rgba(29, 202, 255, 1)",
      pointHoverBorderColor: "rgba(29, 202, 255, 1)",
      data: twitter_follower
    },
```

```
    {
      label: "googleplus",
      fill: false,
      lineTension: 0.1,
      backgroundColor: "rgba(211, 72, 54, 0.75)",
      borderColor: "rgba(211, 72, 54, 1)",
      pointHoverBackgroundColor: "rgba(211, 72, 54, 1)",
      pointHoverBorderColor: "rgba(211, 72, 54, 1)",
      data: googleplus_follower
    }
  ]
```

Output of the line graph



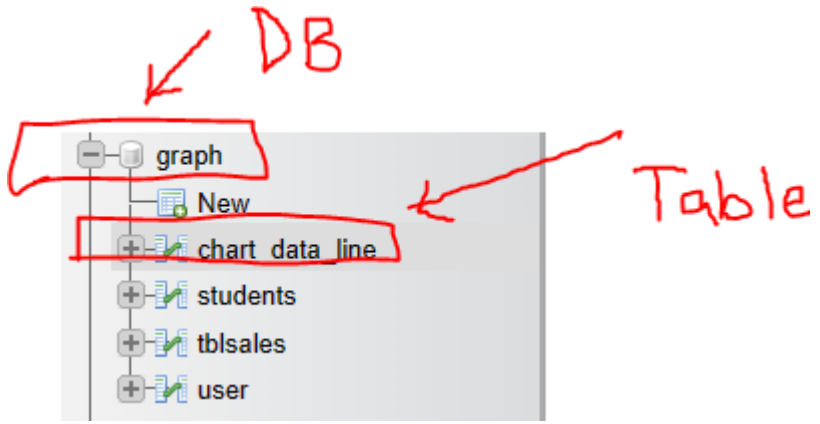
Other types of visuals



4th Example

Complex Line Chart

Step #: 01 Creating Database and Inserting Data



month	sale	profit	exp_fixed	exp_variable
Jan	300	150	50	100
Feb	200	130	50	20
Mar	300	200	50	50
April	400	300	50	50
May	300	200	50	50
Jun	200	100	50	50
July	200	150	50	0
Jan	300	150	50	100
Feb	200	130	50	20
Mar	300	200	50	50
April	400	300	50	50
May	300	200	50	50
Jun	200	100	50	50
July	200	70	50	80

14 rows inserted. (Query took 0.0006 seconds.)

```
INSERT INTO `chart_data_line` (`month`, `sale`, `profit`, `exp_fixed`, `exp_variable`) VALUES ('Jan', 300, 150, 50, 100), ('Feb', 200, 130, 50, 20), ('Mar', 300, 200, 50, 50),
('April', 400, 300, 50, 50), ('May', 300, 200, 50, 50), ('Jun', 200, 100, 50, 50), ('July', 200, 150, 50, 0), ('Jan', 300, 150, 50, 100), ('Feb', 200, 130, 50, 20), ('Mar',
300, 200, 50, 50), ('April', 400, 300, 50, 50), ('May', 300, 200, 50, 50), ('Jun', 200, 100, 50, 50), ('July', 200, 70, 50, 80);
```

[Edit inline] [Edit] [Create PHP code]

Step #: 02, Database Connection File

```php
<?Php
$host_name = "localhost";
$database = "graph"; // Change your database nae
$username = "root";           // Your database user id
$password = "";           // Your password

//////// Do not Edit below /////////
try {
$dbo = new PDO('mysql:host='.$host_name.';dbname='.$database, $username, $password);
} catch (PDOException $e) {
print "<br>Error!: " . $e->getMessage() . "<br/>";
echo "<br><br><font color=red>
Check MySQL login details inside <b>config.php</b> file</font>";
die();
}
?>
```

Step #: 03, Fetching Data from the Database

```php
<?Php
require "config-pdo.php";// Database connection
$query="SELECT month,sale,profit,exp_fixed,exp_variable
 FROM chart_data_line";
$step=$dbo->prepare($query);
if($step->execute()){
$php_data_array=$step->fetchAll();
//print_r($php_data_array);
echo "<script>
      var my_2d= ".json_encode($php_data_array)."
          </script>";
}
?>
```

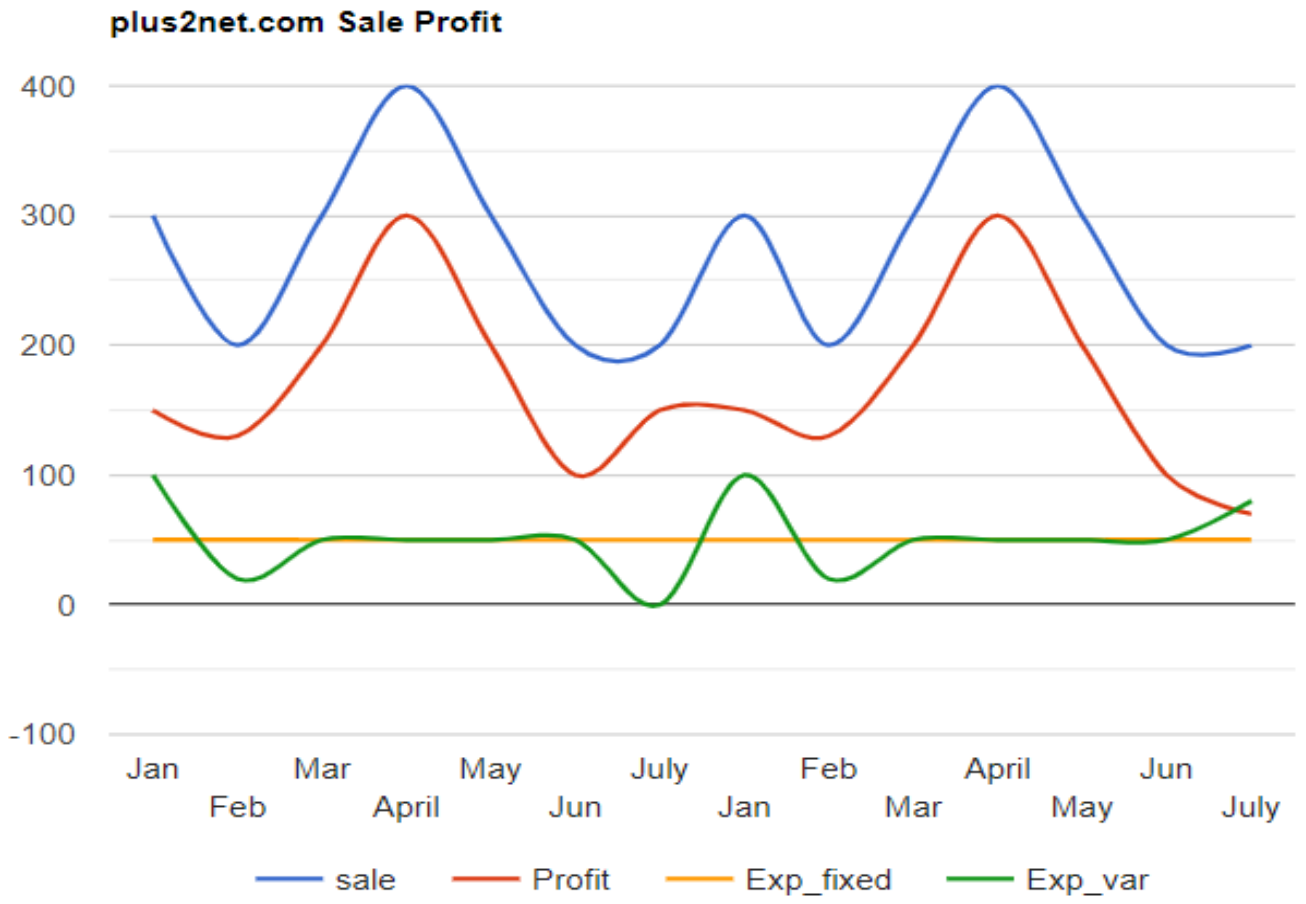
Sql query

Preparing data

Step #: 03, Plotting graph using JS code

```
<script type="text/javascript">
google.charts.load('current',{packages:['corechart']})
google.charts.setOnLoadCallback(drawChart);
function drawChart(){
    //var data=new google.visualization
    var data=new google.visualization.DataTable();
    data.addColumn('string','Month');
    data.addColumn('number','sale');
    data.addColumn('number','Profit');
    data.addColumn('number','Exp_fixed');
    data.addColumn('number','Exp_var');
    for(i=0;i<my_2d.length;i++)
data.addRow([my_2d[i][0],parseInt(my_2d[i][1]),parseInt(my_2d[i][2]),
parseInt(my_2d[i][3]),parseInt(my_2d[i][4])]);

var options = {
 title: 'plus2net.com Sale Profit',
 curveType: 'function',
width: 800,
 height: 500,
     legend: { position: 'bottom' },
       animation:{'startup':true,
        duration: 5000,
        easing: 'out',
      },
 };
 var chart=new
 google.visualization.LineChart(document.getElementById('curve_chart'))
chart.draw(data,options);
}
```

Step #: 04, Putting all things together



https://www.plus2net.com/php_tutorial/chart-line-database.php

Part-II

Visualizations by Reading Data from File

Visualizations by Reading Data from File

A	B	C	D	E
Jan	300	150	50	100
Feb	200	130	50	20
Mar	300	200	50	50
April	400	300	50	50
May	300	200	50	50
Jun	200	100	50	50
July	200	150	50	0
Jan	300	150	50	100
Feb	200	130	50	20
Mar	300	200	50	50
April	400	300	50	50
May	300	200	50	50
Jun	200	100	50	50
July	200	70	50	80

Csv

Php

```php
<?Php
$f_pointer=fopen("chart_data_line.csv","r"); // file pointer
$php_data_array = Array(); // create PHP array
while(! feof($f_pointer)){
$ar=fgetcsv($f_pointer);
//echo print_r($ar); // print the array
$php_data_array[] = $ar; // Adding to array
}
//print_r($php_data_array);
echo "<script>
var my_2d=".json_encode($php_data_array)."
</script>";
?>
```

Visualizations by Reading Data from File

A	B	C	D	E
Jan	300	150	50	100
Feb	200	130	50	20
Mar	300	200	50	50
April	400	300	50	50
May	300	200	50	50
Jun	200	100	50	50
July	200	150	50	0
Jan	300	150	50	100
Feb	200	130	50	20
Mar	300	200	50	50
April	400	300	50	50
May	300	200	50	50
Jun	200	100	50	50
July	200	70	50	80

CSV

JS

```
<div id='curve_chart'></div>
<script type="text/javascript"
    src="https://www.gstatic.com/charts/loader.js"></script>
<script type="text/javascript">
google.charts.load('current',{packages:['corechart']})
google.charts.setOnLoadCallback(drawChart);
function drawChart(){
    //var data=new google.visualization
    var data=new google.visualization.DataTable();
    data.addColumn('string','Month');
    data.addColumn('number','sale');
    data.addColumn('number','Profit');
    data.addColumn('number','Exp_fixed');
    data.addColumn('number','Exp_var');
    for(i=0;i<my_2d.length;i++)
data.addRow([my_2d[i][0],parseInt(my_2d[i][1]),parseInt(my_2d[i][2]),
parseInt(my_2d[i][3]),parseInt(my_2d[i][4])]);
var options = {
 title: 'plus2net.com Sale Profit',
 curveType: 'function',
width: 800,
 height: 500,
     legend: { position: 'bottom' },
       animation:{'startup':true,
        duration: 5000,
        easing: 'out',
      },
 };
 var chart=new
 google.visualization.LineChart(document.getElementById('curve_chart'))
chart.draw(data,options);
}
 var chart=new
 google.visualization.LineChart(document.getElementById('curve_chart'))
chart.draw(data,options);
}
</script>
</body></html>
```

Visualizations by Reading Data from File-Output

1

A	B	C	D	E
Jan	300	150	50	100
Feb	200	130	50	20
Mar	300	200	50	50
April	400	300	50	50
May	300	200	50	50
Jun	200	100	50	50
July	200	150	50	0
Jan	300	150	50	100
Feb	200	130	50	20
Mar	300	200	50	50
April	400	300	50	50
May	300			
Jun	200			
July	200			

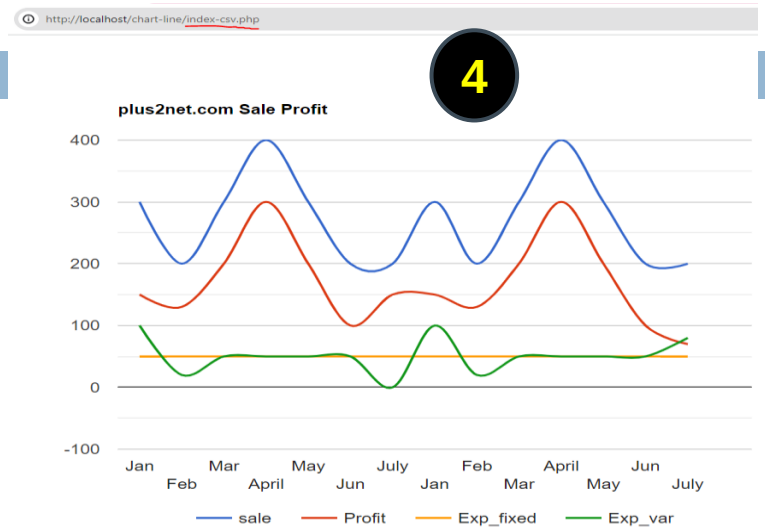
CSV

Php

2

```php
<?Php
$f_pointer=fopen("chart_data_line.csv","r"); // file pointer
$php_data_array = Array(); // create PHP array
while(! feof($f_pointer)){
$ar=fgetcsv($f_pointer);
//echo print_r($ar); // print the array
$php_data_array[] = $ar; // Adding to array
}
//print_r($php_data_array);
echo "<script>
var my_2d=".json_encode($php_data_array)."
</script>";
?>
```

4




```
<div id='curve_chart'></div>
<script type="text/javascript"
    src="https://www.gstatic.com/charts/loader.js"></script>
<script type="text/javascript">
google.charts.load('current',{packages:['corechart']})
setOnLoadCallback(drawChart);
hart(){
=new google.visualization
ew google.visualization.DataTable();
lumn('string','Month');
lumn('number','sale');
lumn('number','
lumn('number','
lumn('number','
my_2d.length;i+
y_2d[i][0],pars
[i][3]),parseIn
{
net.com Sale Pr
unction',

 position: 'bot
on:{'startup':t
on: 5000,
: 'out',


ization.LineChart(document.getElementById('curve_chart'))
chart.draw(data,options);
}
```

3

```
var chart=new
google.visualization.LineChart(document.getElementById('curve_chart'))
chart.draw(data,options);
}
</script>
</body></html>
```

Summary of the Today's Lesson

- Dynamic data visualizations
  - Database setup
  - PHP code setup
  - Front-end code setup
  - Display a bar graph in the Browser
- Dynamic data visualizations
  - Area graph
  - Line graph
  - Tools & libraries
  - Four examples
- Data visualization by reading data from a file
- Form data insertion to the DB [Next Class]