

**BILC Assignment 2**  
***Install PhpMyAdmin and Run SQL Queries***

By: Farzaneh Noroozi

Use PhpMyAdmin on your VPS to Import IRIS data ( <http://archive.ics.uci.edu/ml/datasets/Iris> ), Write the following SQL queries and Post the Results in tabular form in a Word, PDF. or HTML file.

Please note that in the queries I used:

'COL1' instead of sepal length  
'COL2' instead of sepal width  
'COL3' instead of petal length  
'COL4' instead of petal width  
'COL5' instead of class

1- Select the Top 20 records for each class (three queries here) - Base the top 20 on your choice of any of the other fields - sepal length, sepal width, petal length, or petal width

- Based on sepal length for Iris-setosa:

SELECT \* FROM iris WHERE 'COL 5' = 'Iris-setosa' ORDER BY 'COL 1' LIMIT 20;

COL 1	COL 2	COL 3	COL 4	COL 5
4.3	3	1.1	0.1	Iris-setosa
4.4	3	1.3	0.2	Iris-setosa
4.4	3.2	1.3	0.2	Iris-setosa
4.4	2.9	1.4	0.2	Iris-setosa
4.5	2.3	1.3	0.3	Iris-setosa
4.6	3.4	1.4	0.3	Iris-setosa
4.6	3.2	1.4	0.2	Iris-setosa
4.6	3.1	1.5	0.2	Iris-setosa
4.6	3.6	1	0.2	Iris-setosa
4.7	3.2	1.6	0.2	Iris-setosa
4.7	3.2	1.3	0.2	Iris-setosa
4.8	3.4	1.9	0.2	Iris-setosa
4.8	3	1.4	0.3	Iris-setosa
4.8	3.4	1.6	0.2	Iris-setosa
4.8	3	1.4	0.1	Iris-setosa
4.8	3.1	1.6	0.2	Iris-setosa
4.9	3.1	1.5	0.1	Iris-setosa
4.9	3	1.4	0.2	Iris-setosa
4.9	3.1	1.5	0.1	Iris-setosa
4.9	3.1	1.5	0.1	Iris-setosa

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- Based on sepal length for Iris- versicolor:

SELECT \* FROM iris WHERE `COL 5` = 'Iris-versicolor' ORDER BY `COL 1` LIMIT 20;

COL 1	COL 2	COL 3	COL 4	COL 5
4.9	2.4	3.3	1	Iris-versicolor
5	2.3	3.3	1	Iris-versicolor
5	2	3.5	1	Iris-versicolor
5.1	2.5	3	1.1	Iris-versicolor
5.2	2.7	3.9	1.4	Iris-versicolor
5.4	3	4.5	1.5	Iris-versicolor
5.5	2.4	3.8	1.1	Iris-versicolor
5.5	2.5	4	1.3	Iris-versicolor
5.5	2.6	4.4	1.2	Iris-versicolor
5.5	2.3	4	1.3	Iris-versicolor
5.5	2.4	3.7	1	Iris-versicolor
5.6	3	4.1	1.3	Iris-versicolor
5.6	2.9	3.6	1.3	Iris-versicolor
5.6	3	4.5	1.5	Iris-versicolor
5.6	2.5	3.9	1.1	Iris-versicolor
5.6	2.7	4.2	1.3	Iris-versicolor
5.7	2.6	3.5	1	Iris-versicolor
5.7	2.9	4.2	1.3	Iris-versicolor
5.7	2.8	4.5	1.3	Iris-versicolor
5.7	3	4.2	1.2	Iris-versicolor

- Based on sepal length for Iris- virginica:

SELECT \* FROM iris WHERE `COL 5` = 'Iris-virginica' ORDER BY `COL 1` LIMIT 20;

COL 1	COL 2	COL 3	COL 4	COL 5
4.9	2.5	4.5	1.7	Iris-virginica
5.6	2.8	4.9	2	Iris-virginica
5.7	2.5	5	2	Iris-virginica
5.8	2.7	5.1	1.9	Iris-virginica
5.8	2.8	5.1	2.4	Iris-virginica
5.8	2.7	5.1	1.9	Iris-virginica
5.9	3	5.1	1.8	Iris-virginica
6	3	4.8	1.8	Iris-virginica
6	2.2	5	1.5	Iris-virginica
6.1	2.6	5.6	1.4	Iris-virginica
6.1	3	4.9	1.8	Iris-virginica
6.2	2.8	4.8	1.8	Iris-virginica
6.2	3.4	5.4	2.3	Iris-virginica
6.3	3.4	5.6	2.4	Iris-virginica
6.3	2.8	5.1	1.5	Iris-virginica
6.3	2.9	5.6	1.8	Iris-virginica
6.3	2.5	5	1.9	Iris-virginica
6.3	2.7	4.9	1.8	Iris-virginica
6.3	3.3	6	2.5	Iris-virginica
6.4	2.7	5.3	1.9	Iris-virginica

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- Based on sepal width for setosa:

SELECT \* FROM iris WHERE `COL 5` = 'Iris-setosa' ORDER BY `COL 2` LIMIT 20;

COL 1	COL 2 ▲ 1	COL 3	COL 4	COL 5
4.5	2.3	1.3	0.3	Iris-setosa
4.4	2.9	1.4	0.2	Iris-setosa
4.9	3	1.4	0.2	Iris-setosa
4.8	3	1.4	0.3	Iris-setosa
4.4	3	1.3	0.2	Iris-setosa
5	3	1.6	0.2	Iris-setosa
4.8	3	1.4	0.1	Iris-setosa
4.3	3	1.1	0.1	Iris-setosa
4.6	3.1	1.5	0.2	Iris-setosa
4.8	3.1	1.6	0.2	Iris-setosa
4.9	3.1	1.5	0.1	Iris-setosa
4.9	3.1	1.5	0.1	Iris-setosa
4.9	3.1	1.5	0.1	Iris-setosa
4.6	3.2	1.4	0.2	Iris-setosa
5	3.2	1.2	0.2	Iris-setosa
4.7	3.2	1.6	0.2	Iris-setosa
4.4	3.2	1.3	0.2	Iris-setosa
4.7	3.2	1.3	0.2	Iris-setosa
5.1	3.3	1.7	0.5	Iris-setosa
5	3.3	1.4	0.2	Iris-setosa

- Based on sepal width for versicolor:

SELECT \* FROM iris WHERE `COL 5` = 'Iris-versicolor' ORDER BY `COL 2` LIMIT 20;

COL 1	COL 2 ▲ 1	COL 3	COL 4	COL 5
5	2	3.5	1	Iris-versicolor
6.2	2.2	4.5	1.5	Iris-versicolor
6	2.2	4	1	Iris-versicolor
6.3	2.3	4.4	1.3	Iris-versicolor
5.5	2.3	4	1.3	Iris-versicolor
5	2.3	3.3	1	Iris-versicolor
5.5	2.4	3.7	1	Iris-versicolor
5.5	2.4	3.8	1.1	Iris-versicolor
4.9	2.4	3.3	1	Iris-versicolor
5.5	2.5	4	1.3	Iris-versicolor
5.1	2.5	3	1.1	Iris-versicolor
5.6	2.5	3.9	1.1	Iris-versicolor
6.3	2.5	4.9	1.5	Iris-versicolor
5.8	2.6	4	1.2	Iris-versicolor
5.5	2.6	4.4	1.2	Iris-versicolor
5.7	2.6	3.5	1	Iris-versicolor
5.8	2.7	3.9	1.2	Iris-versicolor
5.2	2.7	3.9	1.4	Iris-versicolor
5.6	2.7	4.2	1.3	Iris-versicolor
6	2.7	5.1	1.6	Iris-versicolor

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- Based on sepal width for virginica:

```
SELECT * FROM iris WHERE `COL 5` = 'Iris-virginica' ORDER BY `COL 2` LIMIT 20;
```

COL 1	COL 2 ▲ 1	COL 3	COL 4	COL 5
6	2.2	5	1.5	Iris-virginica
6.3	2.5	5	1.9	Iris-virginica
4.9	2.5	4.5	1.7	Iris-virginica
6.7	2.5	5.8	1.8	Iris-virginica
5.7	2.5	5	2	Iris-virginica
7.7	2.6	6.9	2.3	Iris-virginica
6.1	2.6	5.6	1.4	Iris-virginica
5.8	2.7	5.1	1.9	Iris-virginica
6.3	2.7	4.9	1.8	Iris-virginica
5.8	2.7	5.1	1.9	Iris-virginica
6.4	2.7	5.3	1.9	Iris-virginica
7.4	2.8	6.1	1.9	Iris-virginica
5.6	2.8	4.9	2	Iris-virginica
6.4	2.8	5.6	2.2	Iris-virginica
6.2	2.8	4.8	1.8	Iris-virginica
5.8	2.8	5.1	2.4	Iris-virginica
6.4	2.8	5.6	2.1	Iris-virginica
7.7	2.8	6.7	2	Iris-virginica
6.3	2.8	5.1	1.5	Iris-virginica
6.3	2.9	5.6	1.8	Iris-virginica

- Based on petal length for setosa:

```
SELECT * FROM iris WHERE `COL 5` = 'Iris-setosa' ORDER BY `COL 3` LIMIT 20;
```

COL 1	COL 2	COL 3 ▲ 1	COL 4	COL 5
4.6	3.6	1	0.2	Iris-setosa
4.3	3	1.1	0.1	Iris-setosa
5.8	4	1.2	0.2	Iris-setosa
5	3.2	1.2	0.2	Iris-setosa
5.5	3.5	1.3	0.2	Iris-setosa
4.4	3	1.3	0.2	Iris-setosa
5.4	3.9	1.3	0.4	Iris-setosa
5	3.5	1.3	0.3	Iris-setosa
4.5	2.3	1.3	0.3	Iris-setosa
4.4	3.2	1.3	0.2	Iris-setosa
4.7	3.2	1.3	0.2	Iris-setosa
4.4	2.9	1.4	0.2	Iris-setosa
4.6	3.4	1.4	0.3	Iris-setosa
5.2	3.4	1.4	0.2	Iris-setosa
4.8	3	1.4	0.1	Iris-setosa
5	3.6	1.4	0.2	Iris-setosa
5.5	4.2	1.4	0.2	Iris-setosa
5	3.3	1.4	0.2	Iris-setosa
5.1	3.5	1.4	0.3	Iris-setosa
4.9	3	1.4	0.2	Iris-setosa

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- Based on petal length for versicolor:  
 SELECT \* FROM iris WHERE `COL 5` = 'Iris-versicolor' ORDER BY `COL 3` LIMIT 20;

COL 1	COL 2	COL 3 ▲ 1	COL 4	COL 5
5.1	2.5	3	1.1	Iris-versicolor
5	2.3	3.3	1	Iris-versicolor
4.9	2.4	3.3	1	Iris-versicolor
5	2	3.5	1	Iris-versicolor
5.7	2.6	3.5	1	Iris-versicolor
5.6	2.9	3.6	1.3	Iris-versicolor
5.5	2.4	3.7	1	Iris-versicolor
5.5	2.4	3.8	1.1	Iris-versicolor
5.2	2.7	3.9	1.4	Iris-versicolor
5.8	2.7	3.9	1.2	Iris-versicolor
5.6	2.5	3.9	1.1	Iris-versicolor
5.8	2.6	4	1.2	Iris-versicolor
5.5	2.5	4	1.3	Iris-versicolor
5.5	2.3	4	1.3	Iris-versicolor
6	2.2	4	1	Iris-versicolor
6.1	2.8	4	1.3	Iris-versicolor
5.7	2.8	4.1	1.3	Iris-versicolor
5.8	2.7	4.1	1	Iris-versicolor
5.6	3	4.1	1.3	Iris-versicolor
5.9	3	4.2	1.5	Iris-versicolor

- Based on petal length for virginica:  
 SELECT \* FROM iris WHERE `COL 5` = 'Iris-virginica' ORDER BY `COL 3` LIMIT 20;

COL 1	COL 2	COL 3 ▲ 1	COL 4	COL 5
4.9	2.5	4.5	1.7	Iris-virginica
6	3	4.8	1.8	Iris-virginica
6.2	2.8	4.8	1.8	Iris-virginica
5.6	2.8	4.9	2	Iris-virginica
6.3	2.7	4.9	1.8	Iris-virginica
6.1	3	4.9	1.8	Iris-virginica
6.3	2.5	5	1.9	Iris-virginica
6	2.2	5	1.5	Iris-virginica
5.7	2.5	5	2	Iris-virginica
6.5	3.2	5.1	2	Iris-virginica
5.8	2.8	5.1	2.4	Iris-virginica
5.9	3	5.1	1.8	Iris-virginica
6.9	3.1	5.1	2.3	Iris-virginica
6.3	2.8	5.1	1.5	Iris-virginica
5.8	2.7	5.1	1.9	Iris-virginica
5.8	2.7	5.1	1.9	Iris-virginica
6.7	3	5.2	2.3	Iris-virginica
6.5	3	5.2	2	Iris-virginica
6.4	2.7	5.3	1.9	Iris-virginica
6.4	3.2	5.3	2.3	Iris-virginica

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- Based on petal width for setosa:

SELECT \* FROM iris WHERE `COL 5` = 'Iris-setosa' ORDER BY `COL 4` LIMIT 20;

COL 1	COL 2	COL 3	COL 4 ▲ 1	COL 5
4.9	3.1	1.5	0.1	Iris-setosa
4.9	3.1	1.5	0.1	Iris-setosa
5.2	4.1	1.5	0.1	Iris-setosa
4.9	3.1	1.5	0.1	Iris-setosa
4.3	3	1.1	0.1	Iris-setosa
4.8	3	1.4	0.1	Iris-setosa
5	3.3	1.4	0.2	Iris-setosa
5.4	3.4	1.7	0.2	Iris-setosa
4.7	3.2	1.6	0.2	Iris-setosa
5.2	3.5	1.5	0.2	Iris-setosa
4.6	3.6	1	0.2	Iris-setosa
4.8	3.4	1.9	0.2	Iris-setosa
5.8	4	1.2	0.2	Iris-setosa
4.8	3.4	1.6	0.2	Iris-setosa
5.1	3.5	1.4	0.2	Iris-setosa
4.4	2.9	1.4	0.2	Iris-setosa
5	3.4	1.5	0.2	Iris-setosa
5	3.6	1.4	0.2	Iris-setosa
4.6	3.1	1.5	0.2	Iris-setosa
4.7	3.2	1.3	0.2	Iris-setosa

- Based on petal width for versicolor:

SELECT \* FROM iris WHERE `COL 5` = 'Iris-versicolor' ORDER BY `COL 4` LIMIT 20;

COL 1	COL 2	COL 3	COL 4 ▲ 1	COL 5
5.5	2.4	3.7	1	Iris-versicolor
5.8	2.7	4.1	1	Iris-versicolor
6	2.2	4	1	Iris-versicolor
5.7	2.6	3.5	1	Iris-versicolor
5	2	3.5	1	Iris-versicolor
5	2.3	3.3	1	Iris-versicolor
4.9	2.4	3.3	1	Iris-versicolor
5.5	2.4	3.8	1.1	Iris-versicolor
5.6	2.5	3.9	1.1	Iris-versicolor
5.1	2.5	3	1.1	Iris-versicolor
6.1	2.8	4.7	1.2	Iris-versicolor
5.7	3	4.2	1.2	Iris-versicolor
5.8	2.7	3.9	1.2	Iris-versicolor
5.8	2.6	4	1.2	Iris-versicolor
5.5	2.6	4.4	1.2	Iris-versicolor
5.7	2.8	4.5	1.3	Iris-versicolor
5.7	2.8	4.1	1.3	Iris-versicolor
5.6	2.9	3.6	1.3	Iris-versicolor
6.3	2.3	4.4	1.3	Iris-versicolor
6.4	2.9	4.3	1.3	Iris-versicolor

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- Based on petal width for virginica:  
 SELECT \* FROM iris WHERE `COL 5` = 'Iris-virginica' ORDER BY `COL 4` LIMIT 20;

COL 1	COL 2	COL 3	COL 4	COL 5
6.1	2.6	5.6	1.4	Iris-virginica
6.3	2.8	5.1	1.5	Iris-virginica
6	2.2	5	1.5	Iris-virginica
7.2	3	5.8	1.6	Iris-virginica
4.9	2.5	4.5	1.7	Iris-virginica
6	3	4.8	1.8	Iris-virginica
6.2	2.8	4.8	1.8	Iris-virginica
6.1	3	4.9	1.8	Iris-virginica
6.5	3	5.5	1.8	Iris-virginica
7.2	3.2	6	1.8	Iris-virginica
6.3	2.7	4.9	1.8	Iris-virginica
5.9	3	5.1	1.8	Iris-virginica
6.4	3.1	5.5	1.8	Iris-virginica
6.7	2.5	5.8	1.8	Iris-virginica
7.3	2.9	6.3	1.8	Iris-virginica
6.3	2.9	5.6	1.8	Iris-virginica
6.4	2.7	5.3	1.9	Iris-virginica
5.8	2.7	5.1	1.9	Iris-virginica
6.3	2.5	5	1.9	Iris-virginica
7.4	2.8	6.1	1.9	Iris-virginica

2- Show the MIN and MAX for each class (three queries here) - Base MIN and MAX based on your choice of any of the other fields - sepal length, sepal width, petal length, or petal width

- Based on sepal length:  
 SELECT `COL 5`, MIN(`COL 1`), MAX(`COL 1`) FROM iris GROUP BY `COL 5`;

COL 5	MIN(`COL 1`)	MAX(`COL 1`)
class	sepal_length	sepal_length
Iris-setosa	4.3	5.8
Iris-versicolor	4.9	7
Iris-virginica	4.9	7.9

- Based on sepal width:  
 SELECT `COL 5`, MIN(`COL 2`), MAX(`COL 2`) FROM iris GROUP BY `COL 5`;

COL 5	MIN(`COL 2`)	MAX(`COL 2`)
class	sepal_width	sepal_width
Iris-setosa	2.3	4.4
Iris-versicolor	2	3.4
Iris-virginica	2.2	3.8

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- Based on petal length:

SELECT `COL 5`, MIN(`COL 3`), MAX(`COL 3`) FROM iris GROUP BY `COL 5`;

COL 5	MIN(`COL 3`)	MAX(`COL 3`)
class	petal_length	petal_length
Iris-setosa	1	1.9
Iris-versicolor	3	5.1
Iris-virginica	4.5	6.9

- Based on petal width:

SELECT `COL 5`, MIN(`COL 4`), MAX(`COL 4`) FROM iris GROUP BY `COL 5`;

COL 5	MIN(`COL 4`)	MAX(`COL 4`)
class	petal_width	petal_width
Iris-setosa	0.1	0.6
Iris-versicolor	1	1.8
Iris-virginica	1.4	2.5

3- Show the AVG value for petal length and petal width for each class (three queries here):

- Average values for Iris-setosa:

SELECT AVG(`COL 3`) AS avg\_petal\_length, AVG(`COL 4`) AS avg\_petal\_width FROM iris WHERE `COL 5` = 'Iris-setosa';

avg_petal_length	avg_petal_width
1.464	0.24399999999999999

- Average values for Iris- versicolor:

SELECT AVG(`COL 3`) AS avg\_petal\_length, AVG(`COL 4`) AS avg\_petal\_width FROM iris WHERE `COL 5` = 'Iris-versicolor';

avg_petal_length	avg_petal_width
4.26	1.3259999999999998

- Average values for Iris- virginica:

SELECT AVG(`COL 3`) AS avg\_petal\_length, AVG(`COL 4`) AS avg\_petal\_width FROM iris WHERE `COL 5` = 'Iris-virginica';

avg_petal_length	avg_petal_width
5.552	2.026



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4- Show all values for sepal length and sepal width that are within +/- one Standard Deviation from the mean of those values:

```
SELECT * FROM iris
WHERE `COL 1` BETWEEN (SELECT AVG(`COL 1`) - STDDEV(`COL 1`) FROM iris)
AND (SELECT AVG(`COL 1`) + STDDEV(`COL 1`) FROM iris)
AND `COL 2` BETWEEN (SELECT AVG(`COL 2`) - STDDEV(`COL 2`) FROM iris)
AND (SELECT AVG(`COL 2`) + STDDEV(`COL 2`) FROM iris);
```

COL 1	COL 2	COL 3	COL 4	COL 5
5.1	3.5	1.4	0.2	Iris-setosa
4.9	3	1.4	0.2	Iris-setosa
5	3.4	1.5	0.2	Iris-setosa
4.9	3.1	1.5	0.1	Iris-setosa
5.1	3.5	1.4	0.3	Iris-setosa
5.4	3.4	1.7	0.2	Iris-setosa
5.1	3.3	1.7	0.5	Iris-setosa
5	3	1.6	0.2	Iris-setosa
5	3.4	1.6	0.4	Iris-setosa
5.2	3.5	1.5	0.2	Iris-setosa
5.2	3.4	1.4	0.2	Iris-setosa
5.4	3.4	1.5	0.4	Iris-setosa
4.9	3.1	1.5	0.1	Iris-setosa
5	3.2	1.2	0.2	Iris-setosa
5.5	3.5	1.3	0.2	Iris-setosa
4.9	3.1	1.5	0.1	Iris-setosa
5.1	3.4	1.5	0.2	Iris-setosa
5	3.5	1.3	0.3	Iris-setosa
5	3.5	1.6	0.6	Iris-setosa
5	3.3	1.4	0.2	Iris-setosa
6.4	3.2	4.5	1.5	Iris-versicolor
6.5	2.8	4.6	1.5	Iris-versicolor
5.7	2.8	4.5	1.3	Iris-versicolor
6.3	3.3	4.7	1.6	Iris-versicolor
6.6	2.9	4.6	1.3	Iris-versicolor