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Section 1

“DATABASE”

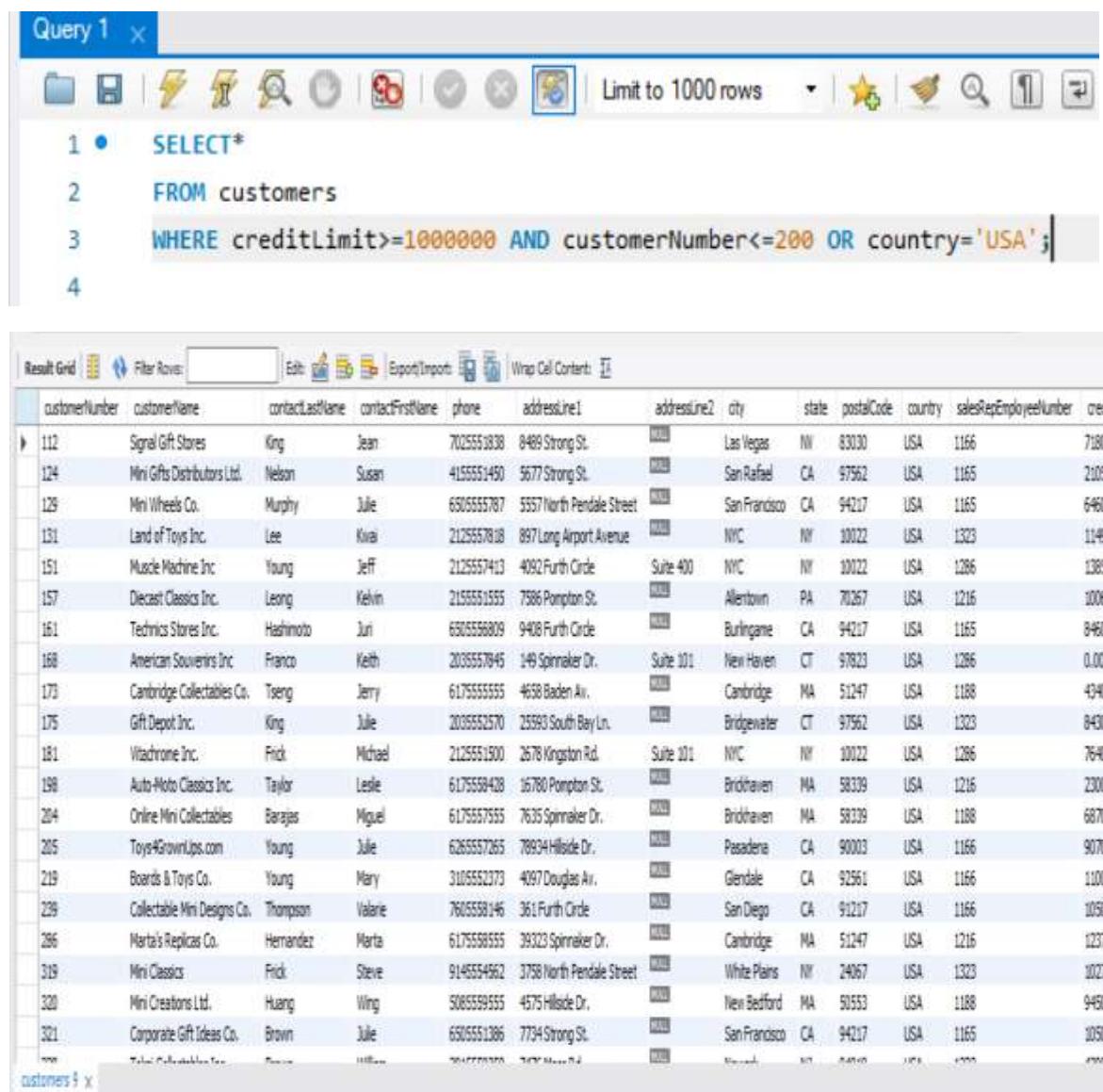
Management System (DBMS)

{1} Get all customers with creditLimit more than or equal to 1000000 and customerNumber less than 200 or country is USA.

SELECT*

FROM customers

WHERE creditLimit>=1000000 AND customerNumber<=200 OR
country='USA';



The screenshot shows the MySQL Workbench interface with a query editor titled "Query 1". The query is:

```
1 •  SELECT*
2   FROM customers
3 WHERE creditLimit>=1000000 AND customerNumber<=200 OR country='USA';
4
```

The results grid displays the following data:

customerNumber	customerName	contactLastName	contactFirstName	phone	addressLine1	addressLine2	city	state	postalCode	country	salesRepEmployeeNumber	creditLimit
112	Signal Gift Stores	King	Jean	7025553838	8489 Strong St.		Las Vegas	NV	83030	USA	1166	71800.00
124	Mini Gifts Distributors Ltd.	Nelson	Susan	4155551450	5677 Strong St.		San Rafael	CA	97562	USA	1165	210500.00
125	Mini Wheels Co.	Murphy	Julie	6505555787	5557 North Pendale Street		San Francisco	CA	94217	USA	1165	54600.00
131	Land of Toys Inc.	Lee	Kwai	2125557818	897 Long Airport Avenue		NYC	NY	10022	USA	1323	114800.00
151	Muscle Machine Inc.	Young	Jeff	2125557413	4092 Furth Circle	Suite 400	NYC	NY	10022	USA	1286	138500.00
157	Diecast Classics Inc.	Leong	Kelvin	2155551555	7586 Pompton St.		Allentown	PA	70267	USA	1216	100600.00
161	Technics Stores Inc.	Hashimoto	Juri	6505556809	9408 Furth Circle		Burlingame	CA	94217	USA	1165	84600.00
168	American Souvenirs Inc.	Franco	Keith	2035557845	149 Spinaker Dr.	Suite 101	New Haven	CT	97823	USA	1286	0.00
173	Cambridge Collectables Co.	Tseng	Jerry	6175555555	4658 Baden Av.		Cambridge	MA	51247	USA	1188	43400.00
175	Gift Depot Inc.	King	Julie	2035552570	25593 South Bay Ln.		Bridgewater	CT	97562	USA	1323	84300.00
181	Wizadrome Inc.	Frick	Michael	2125551300	2678 Kingston Rd.	Suite 101	NYC	NY	10022	USA	1286	76400.00
198	Auto-Hoto Classics Inc.	Taylor	Leslie	6175558428	16780 Pompton St.		Bridgeway	MA	58339	USA	1216	23000.00
204	Online Mini Collectables	Barajas	Miguel	6175557555	7635 Spinaker Dr.		Bridgeway	MA	58339	USA	1188	68700.00
205	ToysGrownUps.com	Young	Julie	6265557265	78934 Hillside Dr.		Pasadena	CA	90003	USA	1166	90700.00
219	Boards & Toys Co.	Young	Mary	3105552373	4097 Douglas Av.		Glendale	CA	92561	USA	1166	11000.00
239	Collectable Mini Designs Co.	Thompson	Valarie	7605558146	361 Furth Circle		San Diego	CA	91217	USA	1166	105000.00
266	Marta's Replicas Co.	Hernandez	Marta	6175558555	39323 Spinaker Dr.		Cambridge	MA	51247	USA	1216	123700.00
319	Mini Classics	Frick	Steve	9145554962	3758 North Pendale Street		White Plains	NY	24067	USA	1323	102700.00
320	Mini Creations Ltd.	Huang	Wing	5085559555	4575 Hillside Dr.		New Bedford	MA	50553	USA	1188	94500.00
321	Corporate Gift Ideas Co.	Brown	Julie	6505551388	7734 Strong St.		San Francisco	CA	94217	USA	1165	105000.00

{2} Get all customers and calculate new_credit column (creditLimit + 2000) order the query by new_credit DESC.

```
SELECT  
contactFirstName,  
creditLimit+2000 AS 'New credit'  
FROM customers  
ORDER BY creditLimit DESC;
```

The screenshot shows the MySQL Workbench interface. The top window is the SQL editor with the following query:

```
1st*  
1 • SELECT  
2 contactFirstName,  
3 creditLimit+2000 AS 'New credit'  
4 FROM customers  
5 ORDER BY creditLimit DESC;
```

The bottom window is the Result Grid, displaying the results of the query:

	contactFirstName	New credit
▶	Diego	229600.00
	Susan	212500.00
	Mihael	143300.00
	Jeff	140500.00
	Rachel	125900.00
	Mary	125700.00
	Marta	123400.00
	Maurizio	122800.00
	Palle	122400.00
	Henriette	121600.00
	Giovanni	120200.00
	Janine	119300.00
	Peter	118400.00
	Martha	116900.00
	Kwai	116200.00
	Dorothy	115000.00
	Paolo	112000.00
	Tony	109800.00
	Anna	107000.00

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	Palle	122400.00
	Henriette	121600.00
	Giovanni	120200.00
	Janine	119300.00
	Peter	118400.00
	Martha	116900.00
	Kwai	116200.00
	Dorothy	115000.00
	Paolo	112000.00
	Tony	109800.00
	Anna	107000.00

{3} Get 3 customers that have the highest creditLimit.

```
SELECT*  
FROM customers  
ORDER BY creditLimit DESC  
LIMIT 3;
```

The screenshot shows a MySQL query editor window titled "3rd*". The toolbar includes standard database management icons. The query pane displays the following SQL code:

```
1 • SELECT*  
2 FROM customers  
3 ORDER BY creditLimit DESC  
4 LIMIT 3;
```

The results pane shows a table with the following data:

city	state	postalCode	country	salesRepEmployeeNumber	creditLimit
Madrid	NULL	28034	Spain	1370	227600.00
San Rafael	CA	97562	USA	1165	210500.00
Genève	NULL	1203	Switzerland	1702	141300.00
NULL	NULL	NULL	NULL	NULL	NULL

Small research about REGEXP:

MySQL adapts the regular expression implemented by [Henry Spencer](#). MySQL allows you to match pattern right in the SQL statements by using REGEXP operator.

^	matches the position at the beginning of the searched string
\$	matches the position at the end of the searched string
.	matches any single character
[...]	matches any character specified inside the square brackets
[^...]	matches any character not specified inside the square brackets
p1 p2	matches any of the patterns p1 or p2
*	matches the preceding character zero or more times
+	matches preceding character one or more times
{n}	matches n number of instances of the preceding character
{m,n}	matches from m to n number of instances of the preceding character

{1} Get customers that its contactFirstName starts with 'je' or 'le'.

```
SELECT contactFirstName  
FROM customers  
WHERE contactFirstName REGEXP '^je'  
OR contactFirstName REGEXP '^le'  
ORDER BY contactFirstName;
```

```
3rd* x
| ⌂ ⌃ ⌄ ⌅ ⌆ ⌇ ⌈ ⌉ ⌊ ⌋ ⌍ | Limit to 1000 rows ▾ | ⌁ ⌂ ⌃ ⌄ ⌅ ⌆ ⌇ ⌈ ⌉ ⌊ ⌋ ⌍

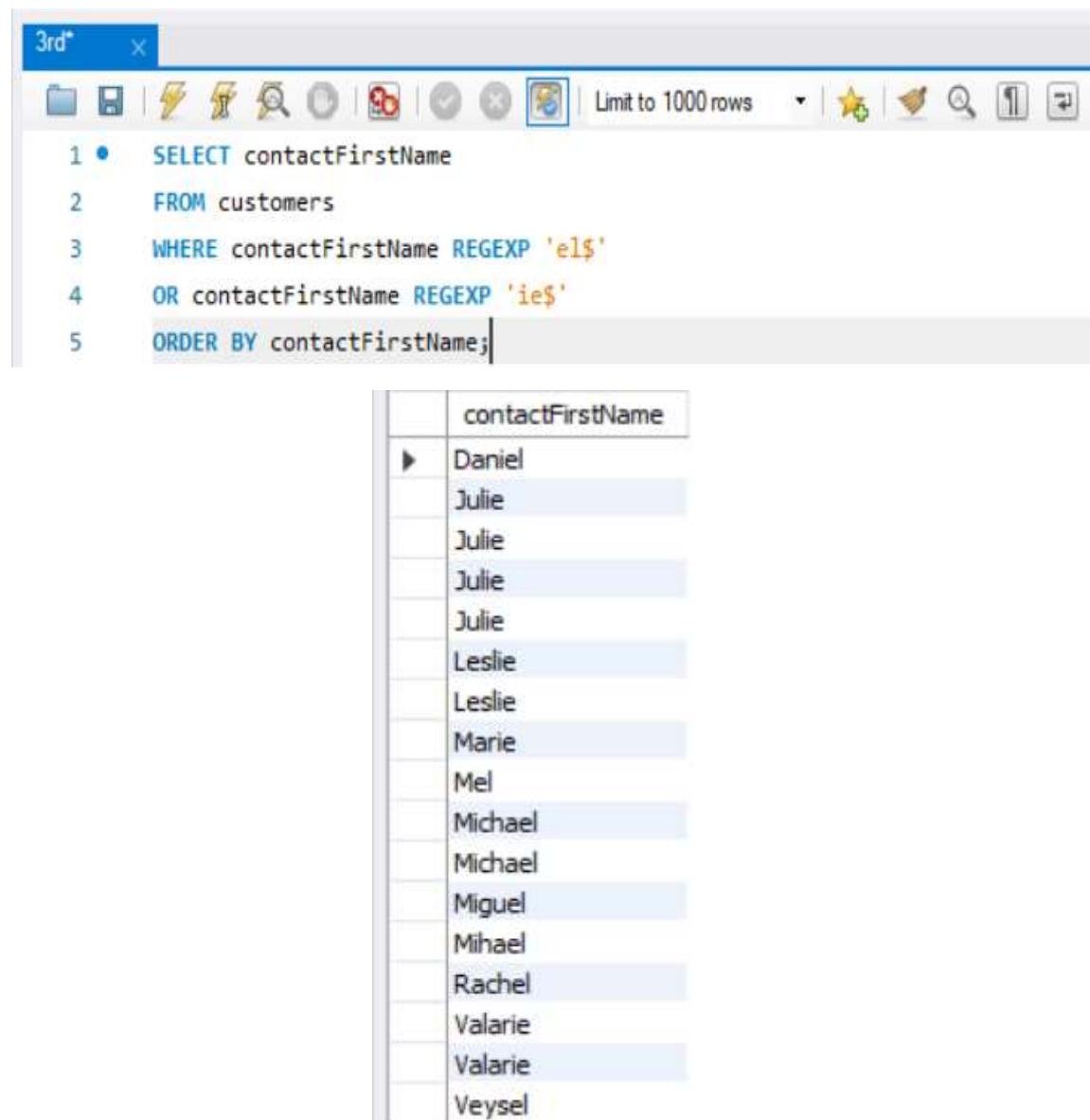
1 • SELECT contactFirstName
2   FROM customers
3   WHERE contactFirstName REGEXP '^je'
4   OR contactFirstName REGEXP '^le'
5   ORDER BY contactFirstName; |
```

Result Grid | Filter Rows: Export: Wrap Cell Content:

contactFirstName
Jean
Jean
Jeff
Jerry
Jesus
Leslie
Leslie

{2} Get customers that its contactFirstName is ended with 'el' or contains 'ie'.

```
SELECT contactFirstName  
FROM customers  
WHERE contactFirstName REGEXP 'el$'  
OR contactFirstName REGEXP 'ie$'  
ORDER BY contactFirstName;
```



The screenshot shows the MySQL Workbench interface with a query editor window. The query is:

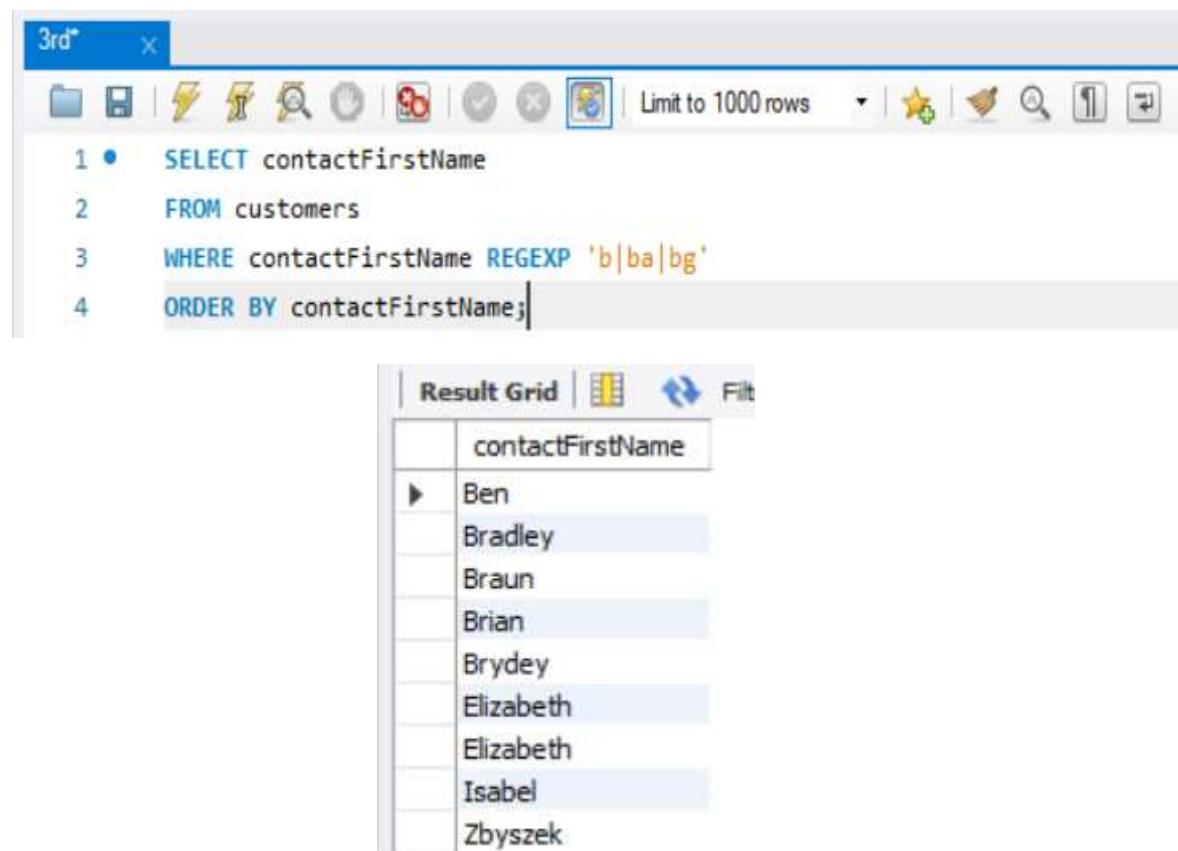
```
1 •  SELECT contactFirstName  
2   FROM customers  
3   WHERE contactFirstName REGEXP 'el$'  
4 OR contactFirstName REGEXP 'ie$'  
5 ORDER BY contactFirstName;
```

The results table displays the following data:

contactFirstName
Daniel
Julie
Julie
Julie
Julie
Leslie
Leslie
Marie
Mel
Michael
Michael
Miguel
Mihael
Rachel
Valarie
Valarie
Veysel

{3} Get customers that its contactFirstName contains 'b' followed by g or a.

```
SELECT contactFirstName  
FROM customers  
WHERE contactFirstName REGEXP 'b|ba|bg'  
ORDER BY contactFirstName;
```



The screenshot shows the MySQL Workbench interface with a query editor and a result grid. The query editor contains the following SQL code:

```
1 •  SELECT contactFirstName  
2   FROM customers  
3  WHERE contactFirstName REGEXP 'b|ba|bg'  
4  ORDER BY contactFirstName;
```

The result grid displays the following data:

contactFirstName
Ben
Bradley
Braun
Brian
Brydey
Elizabeth
Elizabeth
Isabel
Zbyszek