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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';

```

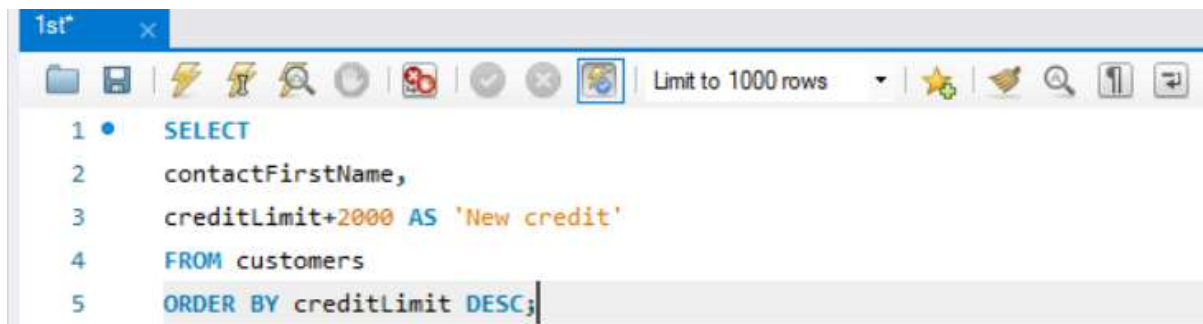
1 • SELECT*
2 FROM customers
3 WHERE creditLimit>=1000000 AND customerNumber<=200 OR country='USA';
4

```

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	4155551490	5677 Strong St.		San Rafael	CA	97562	USA	1165	210500.00
129	Mini Wheels Co.	Murphy	Julie	6505555787	5557 North Pendale Street		San Francisco	CA	94217	USA	1165	64600.00
131	Land of Toys Inc.	Lee	Kivai	2125557818	897 Long Airport Avenue		NYC	NY	10022	USA	1323	114900.00
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 Spinnaker 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	Wadchone Inc.	Frick	Michael	2125551500	2678 Kingston Rd.	Suite 101	NYC	NY	10022	USA	1286	76400.00
198	Auto-Moto Classics Inc.	Taylor	Leslie	6175558428	16780 Pompton St.		Bridghaven	MA	58339	USA	1216	23000.00
204	Online Mini Collectables	Barajas	Miguel	6175557555	7635 Spinnaker Dr.		Bridghaven	MA	58339	USA	1188	68700.00
205	Toys4GrownUps.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	Valerie	7605558146	361 Furth Circle		San Diego	CA	91217	USA	1166	105000.00
286	Marta's Replicas Co.	Hernandez	Marta	6175558555	39323 Spinnaker 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	6505551386	7734 Strong St.		San Francisco	CA	94217	USA	1165	105000.00

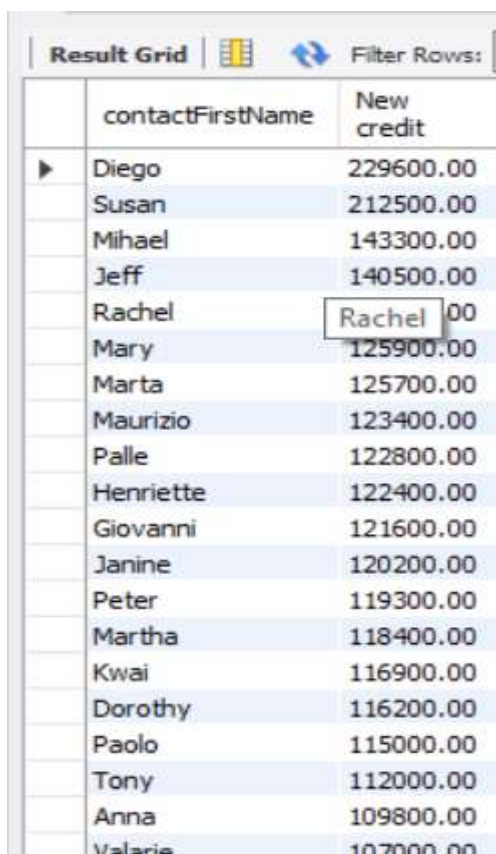
{2} Get all customers and calculate new_credit column (creditLimit + 2000) order the query by new_credit DESC.

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



The screenshot shows a SQL query editor window with a toolbar at the top. The query text is as follows:

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



The screenshot shows a 'Result Grid' with two columns: 'contactFirstName' and 'New credit'. The data is sorted by 'New credit' in descending order. The first row is highlighted with a mouse cursor.

	contactFirstName	New credit
▶	Diego	229600.00
	Susan	212500.00
	Mihael	143300.00
	Jeff	140500.00
	Rachel	Rachel 00
	Mary	125900.00
	Marta	125700.00
	Maurizio	123400.00
	Palle	122800.00
	Henriette	122400.00
	Giovanni	121600.00
	Janine	120200.00
	Peter	119300.00
	Martha	118400.00
	Kwai	116900.00
	Dorothy	116200.00
	Paolo	115000.00
	Tony	112000.00
	Anna	109800.00
	Valerie	107000.00

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

SELECT*

FROM customers

ORDER BY creditLimit DESC

LIMIT 3;

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

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.

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

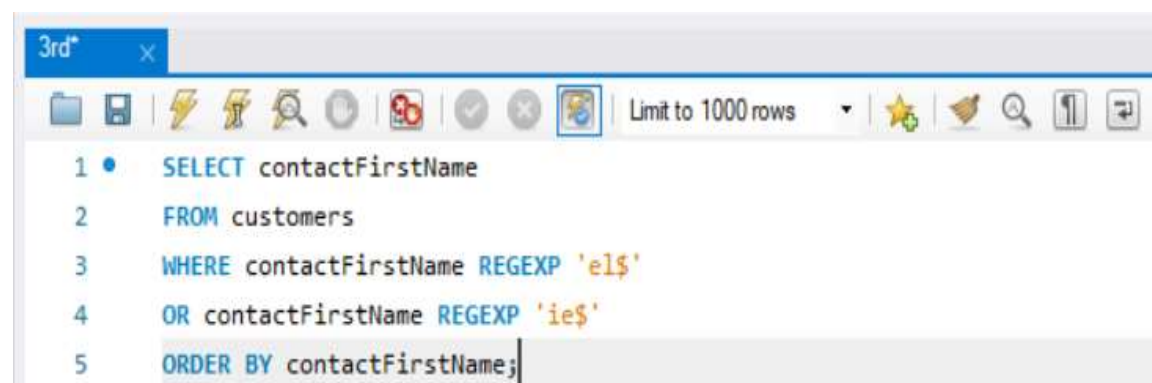


A screenshot of a SQL query result grid. The grid has a header row with the column name 'contactFirstName'. Below the header, there are seven rows of data, each with a first name. The first two rows are 'Jean', the next two are 'Jeff', and the last three are 'Leslie'. The grid is titled 'Result Grid' and has a 'Filter Rows' input field, an 'Export' button, and a 'Wrap Cell Content' checkbox.

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 a SQL IDE window titled '3rd*'. The query editor contains the following SQL code:

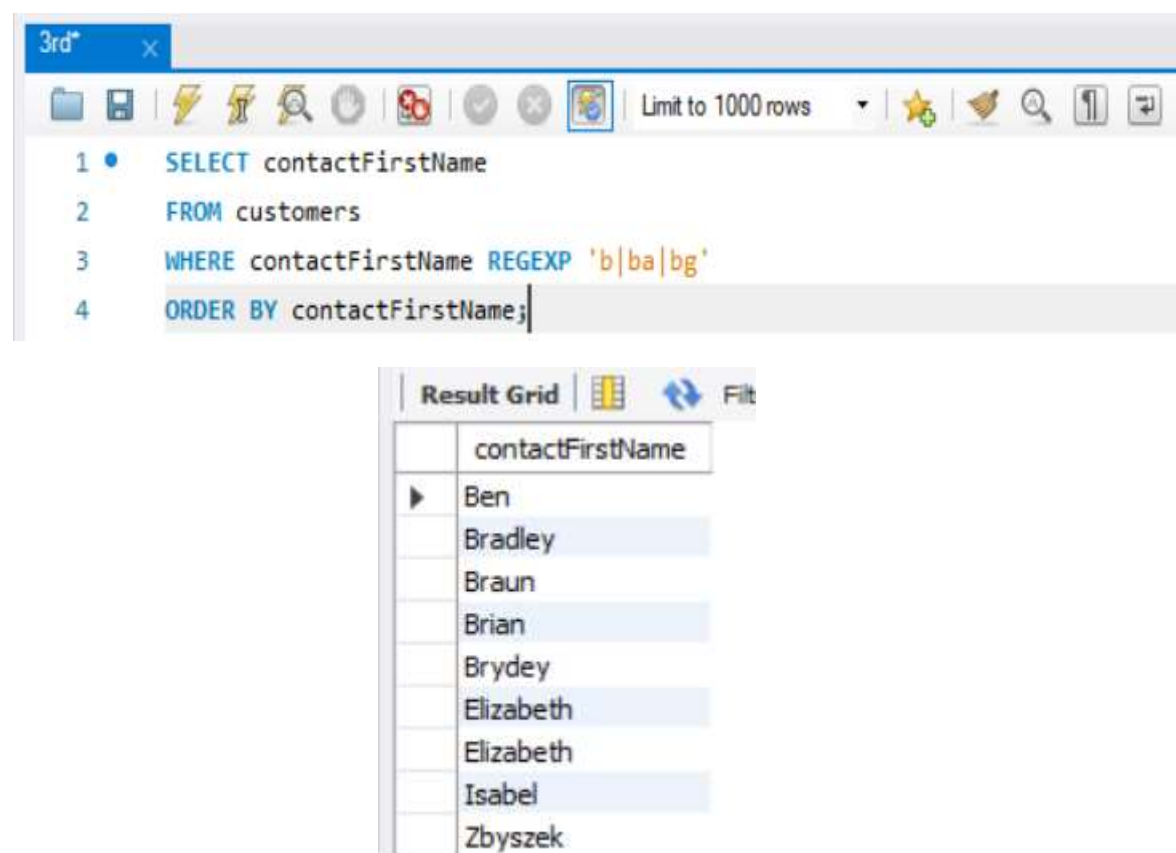
```
1 • SELECT contactFirstName  
2 FROM customers  
3 WHERE contactFirstName REGEXP 'el$'  
4 OR contactFirstName REGEXP 'ie$'  
5 ORDER BY contactFirstName;
```

The results pane below the query editor displays a table with one column, 'contactFirstName', containing 18 rows of names. The names are: Daniel, Julie, Julie, Julie, Julie, Leslie, Leslie, Marie, Mel, Michael, Michael, Miguel, Mihael, Rachel, Valarie, Valarie, and Veysel.

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 a SQL IDE window titled '3rd*' with a toolbar and a query editor. 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;
```

Below the query editor is a 'Result Grid' window showing the results of the query. The grid has a single column labeled 'contactFirstName' and contains the following names:

contactFirstName
Ben
Bradley
Braun
Brian
Brydey
Elizabeth
Elizabeth
Isabel
Zbyszek