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Lab No:	6
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Lab No.6

Activity 1:

- Convert the first name in Upper, lower case for employee whose last name is Firreli and bow. From employee
- Display contactfirstName, first three characters of contactfirstNam, total characters of contactfirstNam, display 10 digits salesRepemployeenumber padding before, then padding after salesRepemployeenumber for total of 10 digits for customer id between 100 and 140 from customers
- Display MSRP from products after rounding of -1,0 and 1.
- Display MSRP from products after truncating of -1,0 and 1.
- Display use of ABS and power functions in query

a)

```
use classicmodels;
select upper(firstName) as upper_first_name,
lower(firstName) as lower_first_name
from employees
where lastName in ('Firrelli', 'Bow');
```

	upper_first_name	lower(firstName)
▶	JEFF	jeff
	ANTHONY	anthony
	JULIE	julie

b)

```
use classicmodels;
select contactFirstName, left(contactFirstName, 3)
as first_three_characters,
LENGTH(contactFirstName) as total_characters,
LPAD(salesRepEmployeeNumber, 10, '0') as padded_before,
RPAD(salesRepEmployeeNumber, 10, '0') as padded_after
from customers
where customerNumber between 100 and 140;
```

contactFirstName	first_three_characters	total_characters	padded_before	padded_after
Carine	Car	7	0000001370	1370000000
Jean	Jea	4	0000001166	1166000000
Peter	Pet	5	0000001611	1611000000
Janine	Jan	7	0000001370	1370000000
Jonas	Jon	6	0000001504	1504000000
Susan	Sus	5	0000001165	1165000000
Zbyszek	Zby	8	NULL	NULL
Roland	Rol	6	0000001504	1504000000
Julie	Jul	5	0000001165	1165000000

c)

```
use classicmodels;
select MSRP,
round(MSRP, -1),
round(MSRP, 0),
round(MSRP, 1)
from products;
```

	MSRP	round(MSRP, -1)	round(MSRP, 0)	round(MSRP, 1)
▶	95.70	100	96	95.7
	214.30	210	214	214.3
	118.94	120	119	118.9
	193.66	190	194	193.7
	136.00	140	136	136.0
	147.74	150	148	147.7
	194.57	190	195	194.6
	207.80	210	208	207.8

d)

```
select MSRP,
truncate(MSRP, -1),
truncate(MSRP, 0),
truncate(MSRP, 1)
from products;
```

	MSRP	truncate(MSRP, -1)	truncate(MSRP, 0)	
▶	95.70	90	95	95.7
	214.30	210	214	214.3
	118.94	110	118	118.9
	193.66	190	193	193.6
	136.00	130	136	136.0
	147.74	140	147	147.7
	194.57	190	194	194.5
	207.80	200	207	207.8

e)

```
use classicmodels;
select MSRP,
ABS(-15) as absolute_value,
POWER(MSRP, 2) as power_value
```

	MSRP	absolute_value	as power_value
▶	95.70	15	9158.49
	214.30	15	45924.490000000005
	118.94	15	14146.7236
	193.66	15	37504.1956
	136.00	15	18496
	147.74	15	21827.107600000003
	194.57	15	37857.484899999996
	207.80	15	43180.840000000004
	136.67	15	18678.688899999997

Activity 2:

Part a:

- Display the customer number, customer name, credit Limit, and credit limit increased by 15.5% (expressed as a whole number) for each customer number greater than 460. Label the column New credit Limit.(customer database)

```
use classicmodels;
select customerNumber, customerName, creditLimit,
Round(creditLimit * 1.155, 0) as NewCreditLimit
from customers
where customerNumber > 460;
```

customerNumber	customerName	creditLimit	NewCreditLimit
462	FunGiftIdeas.com	85800.00	99099
465	Anton Designs, Ltd.	0.00	0
471	Australian Collectables, Ltd	60300.00	69647
473	Frau da Collezione	34800.00	40194
475	West Coast Collectables Co.	55400.00	63987
477	Mit Vergnügen & Co.	0.00	0
480	Kremlin Collectables, Co.	0.00	0
481	Raanan Stores, Inc	0.00	0
484	Iberia Gift Imports, Corp.	65700.00	75884

Part b:

- Write a query that displays the last name (with the all the letters in uppercase) and the length of the last name for all employees whose name starts with the letters "J","B", or "M". Give each column an appropriate label. Sort the results by the employees 'last names'. (employee database)

```
use classicmodels;
select UPPER(lastName) as uppercase_last_name,
LENGTH(lastName) as last_name_length
from employees where firstName like 'J%'
OR firstName like 'B%' OR firstName like 'M%'
order by lastName;
```

	uppercase_last_name	last_name_length
▶	FIRRELLI	8
	FIRRELLI	8
	GERARD	6
	JONES	5
	NISHI	5
	PATTERSON	9

Part c:

- Display the contact first name, contact last name and concatenate them, also display the length of both names. Display postcode in 8 digits if not add * before the post code. **(customer database)**

```
use classicmodels;
select contactFirstName, contactLastName, postalCode,
concat(contactFirstName, contactLastName) as full_name,
length(contactFirstName) as length_first_name,
length(contactLastName) as length_last_name,
lpad(postalCode, '8', '*') as post_code
from customers;
```

contactFirstName	contactLastName	postalCode	full_name	length_first_name	length_last_name	post_code
Carine	Schmitt	44000	Carine Schmitt	7	7	***44000
Jean	King	83030	JeanKing	4	4	***83030
Peter	Ferguson	3004	PeterFerguson	5	8	****3004
Janine	Labrune	44000	Janine Labrune	7	7	***44000
Jonas	Bergulfsen	4110	Jonas Bergulfsen	6	10	****4110
Susan	Nelson	97562	SusanNelson	5	6	***97562
Zbyszek	Piestrzeniewicz	01-012	Zbyszek Piestrzeniewicz	8	15	**01-012
Roland	Keitel	60528	RolandKeitel	6	6	***60528
Julie	Murphy	94217	JulieMurphy	5	6	***94217

Part d:

- Display each employee's last name, then last name whose name start with "b". Replace "o" with "i" in each name. **(employee database)**

```
select lastName from employees;
select replace (lastName, 'o','i')
as modifiedlastName from employees
where lastName like 'B%';
```

	modifiedlastName
►	Bindur
	Biw
	Bindur
	Bitt

Critical Analysis

In this lab, we learnt to use different MySQL built in functions such as UPPER(), LOWER(), LPAD(), RPAD(), ROUND(), POWER(), ABS(), LENGTH(). These functions have different benefits for retrieval of data from a database in accordance with user needs. For instance, ABS function used to give only positive value. LPAD and RPAD is used for padding a string with another string. LENGTH gives a total length of a string.

Overall, this lab gives a fundamental knowledge of MySQL built in functions for retrieving data efficiently from a database.