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CS130 Databases

Lab 3 Report

Lab3_Q1: Select all customers with 7 characters in their surname and their surname starts with the letter M.

SQL Language:

SELECT custname FROM cs130_2017_lab3

WHERE custname SIMILAR TO '% M_____'

Running result: *95 rows returned*

Query Editor | Query History

```
1  SELECT custname FROM cs130_2017_lab3
2  WHERE custname SIMILAR TO '% M_____'
```

Data Output | Explain | Messages | Notifications

```
Successfully run. Total query runtime: 96 msec.
95 rows affected.
```

Lab3_Q2: Select all booktitles and their bookpages where the number of pages in the book is an even number and the total number of pages in the book is between 100 and 200 inclusive.

SQL Language:

SELECT booktitle, bookpages FROM cs130_2017_lab3

WHERE (bookpages%2=0)AND(bookpages BETWEEN 100 AND 200)

Running result: *463 rows returned*

Query Editor | Query History

```
1  SELECT booktitle, bookpages FROM cs130_2017_lab3
2  WHERE (bookpages%2=0)AND(bookpages BETWEEN 100 AND 200)
```

Data Output | Explain | Messages | Notifications

	booktitle text	bookpages integer
1	Up-sized encompassing support	174
2	Innovative maximized ability	154
3	Robust composite time-frame	192
4	Programmable responsive help-desk	190
5	Intuitive asynchronous contingency	138

Data Output | Explain | Messages | Notifications

```
Successfully run. Total query runtime: 46 msec.
463 rows affected.
```

Lab3_Q3: Select all ISBN numbers where the first digit is a 0 or a 7 and the last digit is a 0 or a 7.

SQL Language:

SELECT bookisbn FROM cs130_2017_lab3 WHERE bookisbn ~'^(0|7).(0|7)$'*

Running result: *174 rows returned*

Query Editor | Query History

```
1  SELECT bookisbn FROM cs130_2017_lab3
2  WHERE bookisbn ~'^(0|7).*(0|7)$'
```

Data Output | Explain | Messages | Notifications

	bookisbn character varying (50)
1	720761819-0
2	769292278-0
3	779701879-0
4	791441200-7
5	728016134-0

Data Output | Explain | Messages | Notifications

```
Successfully run. Total query runtime: 45 msec.
174 rows affected.
```

Lab3_Q4: Select all booktitles where the booktitle contains at least one digit.

SQL Language: *SELECT booktitle FROM cs130_2017_lab3 WHERE booktitle ~'.*\d.*'*

Running result: *286 rows returned*

Query Editor | Query History

```
SELECT booktitle FROM cs130_2017_lab3
WHERE booktitle ~'.*\d.*'
```

Data Output | Explain | Messages | Notifications

	booktitle text
1	Triple-buffered 6th generation framework
2	Total 24 hour groupware
3	Enterprise-wide 24 hour hierarchy
4	Ameliorated 4th generation hierarchy
5	User-centric 3rd generation open system

Data Output | Explain | Messages | Notifications

```
Successfully run. Total query runtime: 50 msec.
286 rows affected.
```

Lab3_Q5: Select all booktitles where the book title contains the terms *Operative web-enabled* ***in this order.***

SQL Language: *SELECT booktitle FROM cs130_2017_lab3 WHERE booktitle~'Operative web-enabled'*

Running result: *4 rows returned*

Query Editor | Query History

```
SELECT booktitle FROM cs130_2017_lab3
WHERE booktitle~'Operative web-enabled'
```

Data Output | Explain | Messages | Notifications

	booktitle text
1	Operative web-enabled framework
2	Operative web-enabled moratorium
3	Operative web-enabled benchmark
4	Operative web-enabled model

Data Output | Explain | Messages | Notifications

```
Successfully run. Total query runtime: 116 msec.
4 rows affected.
```

Lab3_Q6: Write a query to select all customer IBAN where the first block which indicates the country (first two characters) indicates Ireland (IE), Switzerland (CH) or Spain (ES). The total length of these iban numbers should be greater or equal to 26 characters. You should note that the IBAN number is a string and is composed of 'blocks' separated by spaces. These blocks all have 4 characters except the final block which can have 1,2,3 or 4 characters.

SQL Language:

SELECT custiban FROM cs130_2017_lab3

WHERE custiban SIMILAR TO'(IE%|CH%|ES%)'AND CHAR_LENGTH(custiban)>=26

Running result: *204 rows returned*

Query Editor | Query History

```
SELECT custiban FROM cs130_2017_lab3
WHERE custiban SIMILAR TO'(IE%|CH%|ES%)'AND CHAR_LENGTH(custiban)>=26
```

Explain | Data Output | Messages

	custiban character varying (50)
1	ES66 0259 6364 1491 9746 3655
2	CH22 4345 22NR AAKH CJ7R R
3	IE91 EQKR 9940 8768 9667 70
4	CH72 9211 6IZY QXPW ZCQE V
5	ES64 1472 3952 8690 1587 1990

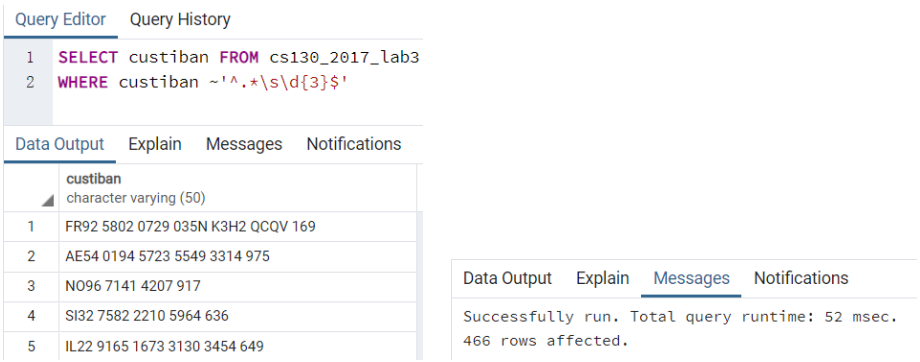
Data Output | Explain | Messages | Notifications

```
Successfully run. Total query runtime: 67 msec.
214 rows affected.
```

Lab3_Q7: Write a query to list all customer IBAN where the final block of the IBAN is composed of only 3 digits.

SQL Language: *SELECT custiban FROM cs130_2017_lab3 WHERE custiban ~'^.*\s\d{3}$'*

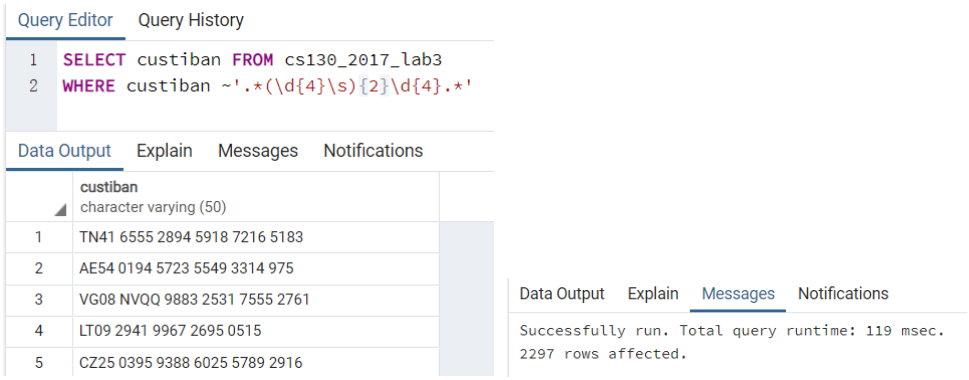
Running result: *466 rows returned*



Lab3_Q8: Write a query to list all customer IBAN where there are three consecutive blocks of 4 digits ANYWHER in the IBAN number.

SQL Language: *SELECT custiban FROM cs130_2017_lab3 WHERE custiban ~'.*(\d{4}\s){3}\d{4}.*'*

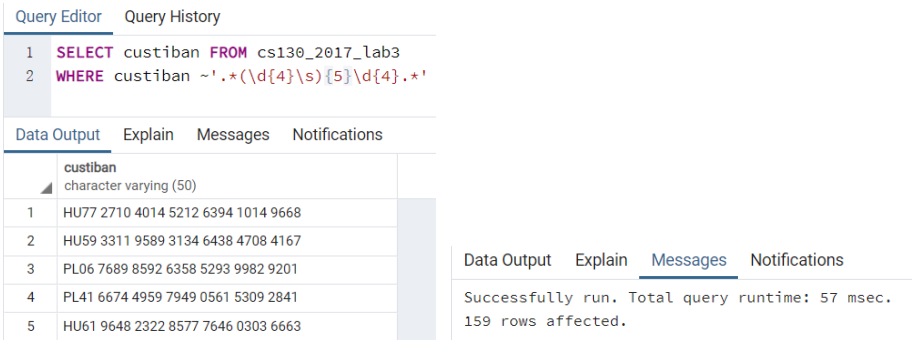
Running result: *2297 rows returned*



Lab3_Q9: Select all customer IBAN where there are SIX consecutive blocks of four digits in the IBAN Number.

SQL Language: *SELECT custiban FROM cs130_2017_lab3 WHERE custiban ~'.*(\d{4}\s){5}\d{4}.*'*

Running result: *159 rows returned*



Lab3_Q10: Suppose that customers who are in the region IE or UK are given the following offer. If the total price of their chosen book including additional sales tax of 12% is greater than 60.00 euros and the book has at least 100 pages then they are entitled to free shipping of their book. Please note that bookprice as given in the database table DOES NOT INCLUDE any sales tax. All prices are given in EURO currency.

SQL Language:

SELECT custname,custiban,bookpages,bookprice FROM cs130_2017_lab3

*WHERE (custRegion SIMILAR TO'(IE%|UK%)') AND (bookprice*1.12>60) AND (bookpages>=100)*

Running result: *137 rows returned*

```
SELECT custname,custiban,bookpages,bookprice FROM cs130_2017_lab3
WHERE (custRegion SIMILAR TO'(IE%|UK%)') AND (bookprice*1.12>60) AND (bookpages>=100)
```

Explain Data Output Messages

```
Successfully run. Total query runtime: 83 msec.
137 rows affected.
```

Explain Data Output Messages

Successfully run. Total query runtime: 83 msec.
137 rows affected.

Lab3_Q11: Select the booktitle and booktext of any book where the booktext sample has the term CS130 repeated in the booktext string. For the term or word CS130 to be repeated it must obviously appear two or more times. You should consider that a terms or words are often separated by a single white space character.
SQL Language: *SELECT booktitle,booktext FROM cs130_2017_lab3 WHERE booktext ~'.*(CS130\s){2,}.*'*
Running result: *7 rows returned*

```
SELECT booktitle,booktext FROM cs130_2017_lab3
WHERE booktext ~'.*(CS130\s){2,}.*'
```

Data Output Explain Messages Notifications

	booktitle text	booktext text
1	Object-based optimal framework	cs130 cs130 CS130 CS130 meek rep...
2	Automated zero tolerance application	strings and expressions CS130 CS13...
3	Customer-focused scalable hub	cs130 cs130 CS130 CS130 paratroop...
4	Business-focused intermediate flexibility	CS130 CS130 CS130 will really teach ...
5	Balanced discrete superstructure	Beaker understating bathtubs cs130 c...
6	Pre-emptive 6th generation portal	CS130 is databases and databases is ...
7	Multi-channelled contextually-based policy	cs130 cs130 CS130 CS130 cs130 cs1...

Data Output Explain Messages Notifications

Successfully run. Total query runtime: 54 msec.
7 rows affected.

Lab3_Q12: In a completely fictional university a completely fictional student in mathematics has developed a simple method to predict what the perfect number of pages (in terms of overall readability, size, usage of printing sheets, etc) should be in a book. This student says that if the logarithm to the base 10 of the number of pages in a book is between 2.2227 and 2.285555 inclusive then that book has the perfect number of pages . Write a query which displays the booktitles and number of pages for all of the books which we could consider as 'perfect' by this student's methodology. You should consult the PosgreSQL help pages on mathematical operators.
SQL Language: *SELECT booktitle FROM cs130_2017_lab3 WHERE booktitle ~'.*\d.*'*
Running result: *246 rows returned*

```
SELECT booktitle,bookpages FROM cs130_2017_lab3
WHERE log(10,bookpages) BETWEEN 2.2227 AND 2.285555
```

Data Output Explain Messages Notifications

	booktitle text	bookpages integer
1	Up-sized encompassing support	174
2	Robust composite time-frame	192
3	Programmable responsive help-desk	190
4	Grass-roots even-keeled data-warehouse	167
5	Optimized foreground solution	175

Data Output Explain Messages Notifications

Successfully run. Total query runtime: 803 msec.
246 rows affected.