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CS130 Databases

Lab 4 Report

Q1: Write a query to list all of the downloads which occurred on the 21st of January 2017.

SQL Language:

SELECT downloadts FROM cs130_2017_lab4

WHERE date_part('day', downloadts)=21

AND date_part('month', downloadts)=1

AND date_part('year', downloadts)=2017

Running result: 5 rows returned



Q2: Write a query to list all of the downloads which occurred on the 13th of December 2016.

SQL Language:

SELECT downloadts FROM cs130_2017_lab4 WHERE

date_part('day', downloadts)=13

AND date_part('month', downloadts)=12

AND date_part('year', downloadts)=2016

Running result: 9 rows returned



Q3: Select all file downloads where the user_agent contains the terms ubuntu linux firefox in this order but may be separated by different numbers of characters.

SQL Language:

SELECT * FROM cs130_2017_lab4 WHERE

user_agent ~*'ubuntu.*linux.*firefox'

Running result: 87 rows returned



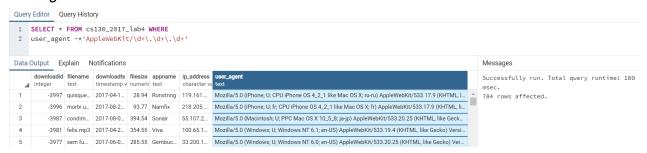
Q4: WebKit is a layout engine software component for rendering web pages in web browsers. It powers Apple's Safari web browser. In the user agent file the AppleWebKit is written as AppleWebKit/digits.digits.digits OR just AppleWebKit/digits.digits. Write a query to find all downloads where AppleWebKit is found in the user agent where there digits.digits.digits after it.

SQL Language:

SELECT * FROM cs130_2017_lab4 WHERE

user_agent ~*' AppleWebKit/d\+\.\d+\.d+'

Running result: 784 rows returned



Q5: Write a query to list all downloads which occurred on any Sunday in 2016. The user agent string in these downloads should contain Googlebot/2.1.

SQL Language:

SELECT downloadts, user_agent FROM cs130_2017_lab4 WHERE

EXTRACT(DOW FROM downloadts)=0 AND date_part('year',downloadts)=2016

AND user_agent ~'Googlebot/2\.1'

Running result: 4 rows returned

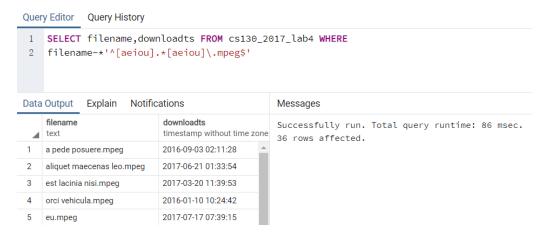


Q6: Write a query to list all downloads where the filename starts and ends with a vowel and the extension is .mpeg. SQL Language:

SELECT filename, downloadts FROM cs130_2017_lab4 WHERE

filename~*'^[aeiou].*[aeiou]\.mpeg\$'

Running result: 36 rows returned



Q7: Write a query to list all downloads where the whole filename (name and extension) DOES NOT contain any vowels.

SQL Language:

SELECT filename, downloadts FROM cs130_2017_lab4 WHERE

filename~*'^[^aeiou]+\$'

Ouery Editor Ouery History

Running result: 7 rows returned

Query Editor		Query History				
1 2	SELECT filename,downloadts FROM cs130_2017_lab4 WHERE filename~*'^[^aeiou]+\$'					
Dat	ta Output	Explain Notificat	ions	Messages		
_	filename text		downloadts timestamp without time	Successfully run. Total query runtime: 85 msec. 7 rows affected.		
1	btf.qt		2016-06-08 21:59:09			
2	Gdr.mp3		2017-09-14 03:28:06			
3	TTRP.MP3		2017-02-19 13:12:00			
4	3dr678.mp3	3	2017-08-03 00:03:18			
5	WWW.mp3		2017-05-11 22:50:05			

Q8: Write a query which lists all downloads where the app name has an even number of characters, the whole filename has an even number of characters and the file is an MP3 file.

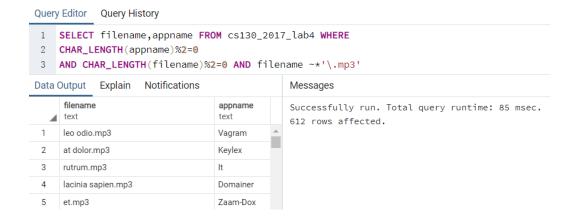
SQL Language:

SELECT filename,appname FROM cs130_2017_lab4 WHERE

CHAR_LENGTH(appname)%2=0

AND CHAR_LENGTH(filename)%2=0 AND filename ~*'\.mp3'

Running result: 612 rows returned

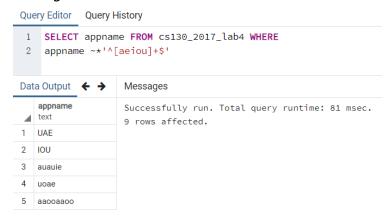


Q9: Write a query to list all of the app names where the name of these apps is composed ONLY OF vowel characters.

SQL Language:

SELECT appname FROM cs130_2017_lab4 WHERE appname ~*'^[aeiou]+\$'

Running result: 9 rows returned



Q10: It is suspected that a group of hackers called the 42Group have managed to break into the file download system and corrupt specific files. Only specific files are corrupted. These files are those files which have a download timestamp where all parts of the timestamp (Excluding the year) add to the number 42. The 42Group attacks did not happen in 2016 but happened in all other years. Write a query to identify these files.

SQL Language:

SELECT downloadts FROM cs130_2017_lab4 WHERE

 $date_part('month', downloadts) +$

date_part('day',downloadts)+

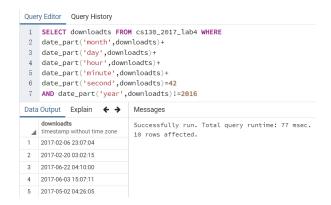
date_part('hour',downloadts)+

date_part('minute',downloadts)+

date_part('second',downloadts)=42

AND date_part('year',downloadts)!=2016

Running result: 10 rows returned



Q11: Select all file downloads where the filesize is greater or equal to 400mb, the hour of the download timestamp is a prime number, the day of the download timestamp is a prime number and the month of the download timestamp is a prime number.

SQL Language:

SELECT downloadts FROM cs130_2017_lab4 WHERE

filesize>=400

AND date_part('hour',downloadts)in(2,3,5,7,11,13,17,19,23)

AND date_part('day',downloadts)in(2,3,5,7,11,13,17,19,23,29,31)

AND date_part('month',downloadts)in(2,3,5,7,11)

Running result: 55 rows returned



Q12: Select all file downloads where the log to the base 10 of the number of characters in the appname is equal to the log to the base 10 of the number of characters in the IP Address and the filesize is greater or equal to 100MB.

SQL Language:

SELECT * FROM cs130_2017_lab4

WHERE LOG(char_length(appname))=LOG(char_length(IP_Address))

AND filesize >=100

Running result: 18 rows returned

