

Google Query Function Basics

Data in Google Spreadsheet or responses from a Google Form can be organized in a report type sheet using the =query() function. The query function allows the ability to select specific fields or columns, to filter for specific information, to sort by any field, to calculate on numeric fields, to group by selected fields, and to create pivot tables. The Google Spreadsheet query is designed to be similar to SQL with few exceptions. It is a subset of SQL with a few features of its own.

The Syntax of the function is as follows: **=query (data, query, headers).**

data

Data can come from a **sheet** and **range** separated by a “!” and ended with a “,”. Example: =query(Form1!B1:G52, ...) or =query(Form1!B:H, ...) or =query('Form response'!DataRange, ...) here DataRange is named range.

query

Query starts with double quotes “ and the keyword **select** in lowercase followed by the columns to be used typed as capitals and separated by commas. =query(Form1!B2:J45, “select B, G, H ...)

query options

There are some basic options that can be used with the **select** keyword.

Sorting can be done with the **order by column** statement.

Example: =query(Form1!B1:G52, “select B, G, F order by G” , ...).

Filtering can be done with the **where condition** statement. The condition can be a Boolean statement using any of the following condition options.

- The simple comparison operators are <=, <, >, >=, =, !=, <>.
- *contains* - A substring match. *whole* contains *part* is true if *part* is anywhere within *whole*. Example: where name contains 'John' matches 'John', 'John Adams', 'Long John Silver' but not 'john adams'.
- *starts with* - A prefix match. *value* starts with *prefix* is true if *prefix* is at the beginning of *value*. Examples: where dept starts with 'engineering' matches 'engineering' and 'engineering managers'. where 'engineering' starts with dept matches 'engineering', 'eng', and 'e'.
- *ends with* - A suffix match. *value* ends with *suffix* is true if *suffix* is at the end of *value*. Example: where 'cowboy' ends with suffix matches 'boy' and 'y'.
- *matches* - A (preg) regular expression match. *haystack* matches *needle* is true if the regular expression in *needle* matches *haystack*. Examples: where country matches '*.ia' matches India and Nigeria, but not Indiana. Note that this is not a global search, so where country matches 'an' will not match 'Canada'.
- *like* - A text search that supports two wildcards: %, which matches zero or more characters of any kind, and _ (underscore), which matches any one character. This is similar to the SQL LIKE operator. Example: where name like fre% matches 'fre', 'fred', and 'freddy'.

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Where Examples:

where B >= 600

where G != 'Eng' and E '2005-01-21' < F

where (C <> 'Eng' and G = true) or (C = 'Sales') or B is null

Examples: =query(Form1!B1:G52, "select B, G, F where F contains "Alpine" order by G" , ...)

=query(Form1!B1:G52, "select B, G, F where F <> " order by G" , ...)

Headers

The last option in the query function which follows the second comma is the headers option. If the data has headers in the row you can specify this here how many rows are headers. If there is one row of headers the statement would be written with a 1.

Example: =query(data, "select ...", 1)

If there are 2 rows of data headers the statement would be written with a 2.

Example: =query(data, "select ...", 2)

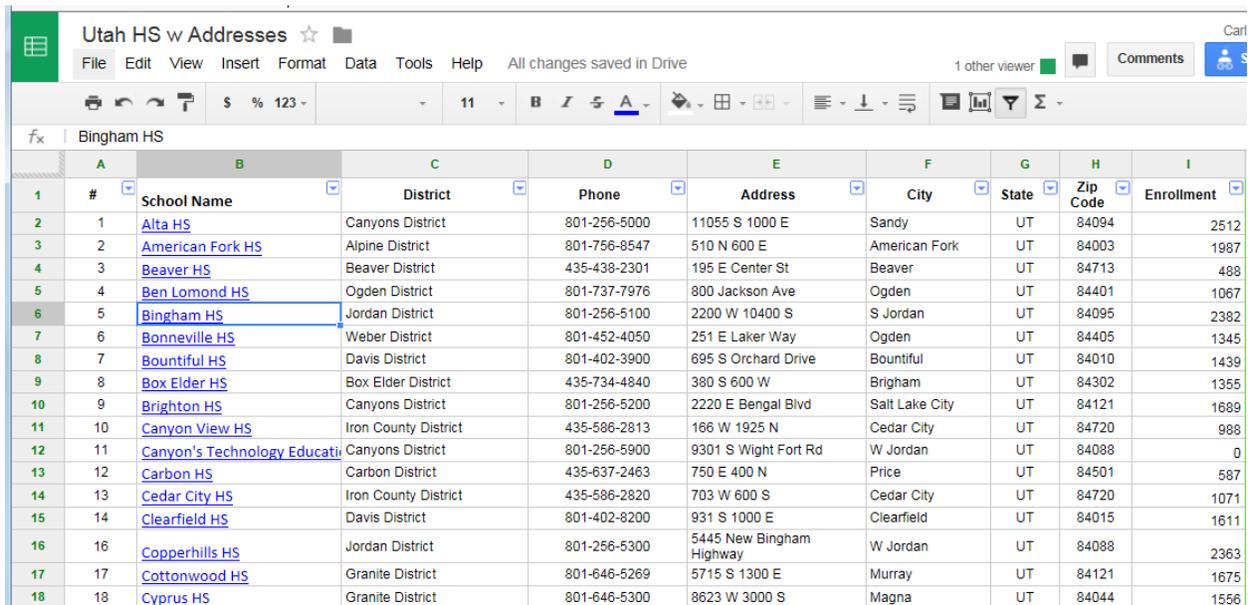
References

There are several other options that can be used in the **query** function. For a detail reference see the <https://developers.google.com/chart/interactive/docs/querylanguage>

Link to folder with this document and examples. <http://goo.gl/HdzcGg> then open the "Google Spreadsheet Query" folder for all the related documents.

Samples

Spreadsheet of high schools in Utah.



#	School Name	District	Phone	Address	City	State	Zip Code	Enrollment
1	Alta HS	Canyons District	801-256-5000	11055 S 1000 E	Sandy	UT	84094	2512
2	American Fork HS	Alpine District	801-756-8547	510 N 600 E	American Fork	UT	84003	1987
3	Beaver HS	Beaver District	435-438-2301	195 E Center St	Beaver	UT	84713	488
4	Ben Lomond HS	Ogden District	801-737-7976	800 Jackson Ave	Ogden	UT	84401	1067
5	Bingham HS	Jordan District	801-256-5100	2200 W 10400 S	S Jordan	UT	84095	2382
6	Bonneville HS	Weber District	801-452-4050	251 E Laker Way	Ogden	UT	84405	1345
7	Bountiful HS	Davis District	801-402-3900	695 S Orchard Drive	Bountiful	UT	84010	1439
8	Box Elder HS	Box Elder District	435-734-4840	380 S 600 W	Brigham	UT	84302	1355
9	Brighton HS	Canyons District	801-256-5200	2220 E Bengal Blvd	Salt Lake City	UT	84121	1689
10	Canyon View HS	Iron County District	435-586-2813	166 W 1925 N	Cedar City	UT	84720	988
11	Canyon's Technology Educati	Canyons District	801-256-5900	9301 S Wight Fort Rd	W Jordan	UT	84088	0
12	Carbon HS	Carbon District	435-637-2463	750 E 400 N	Price	UT	84501	587
13	Cedar City HS	Iron County District	435-586-2820	703 W 600 S	Cedar City	UT	84720	1071
14	Clearfield HS	Davis District	801-402-8200	931 S 1000 E	Clearfield	UT	84015	1611
15	Copperhills HS	Jordan District	801-256-5300	5445 New Bingham Highway	W Jordan	UT	84088	2363
16	Cottonwood HS	Granite District	801-646-5269	5715 S 1300 E	Murray	UT	84121	1675
17	Cyprus HS	Granite District	801-646-5300	8623 W 3000 S	Magna	UT	84044	1566

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Public School Report

Query that lists schools, districts, and enrollment for public schools and sorted by district.

=query(UtahHS!A1:I158, "select C, B, I where C contains 'District' order by C, B", 1)

A	B	C
Utah Public Schools		
District	School Name	Enrollment
Alpine District	American Fork HS	1987
Alpine District	Lehi HS	1851
Alpine District	Lonepeak HS	2201
Alpine District	Mountain View HS	1323
Alpine District	Orem HS	1109
Alpine District	Pleasant Grove	1892
Alpine District	Polaris HS	331
Alpine District	Timpanogos HS	1350
Alpine District	W Lake HS	2243
Beaver District	Beaver HS	488
Beaver District	Milford HS	169
Box Elder District	Bear River HS	891
Box Elder District	Box Elder HS	1355
Cache County District	Mountain Crest HS	1632
Cache County District	Skowhegan HS	1554

Phone Directory Report

Query that creates a phone directory sorted by school.

=query(UtahHS!A1:I158, "select B, D order by B", 1)

Phone Directory	
School Name	Phone
Alta HS	801-256-5000
Altamont HS	435-738-1345
American Fork HS	801-756-8547
American Leadership Academy	801-794-2226
AMES	801-278-9460
Ashley Valley Education Ctr	435-781-4675
Bear River HS	435-257-2500
Beaver HS	435-438-2301
Beehive Science & Tech Academy	801-576-0070
Ben Lomond HS	801-737-7976
Big Water HS	435-675-5821
Bingham HS	801-256-5100

Screenshot from PDF of the Report.