

Virtual Observatory Tools

Day 2



Topcat - Tool for Operations on Catalogues And Tables

- Download from:
<http://www.star.bris.ac.uk/~mbt/topcat/topcat-full.jar>
- Run in a command line:
`java -jar topcat-full.jar`

Select a VO data server

- In the topcat click “open a new table” icon.
- In the new opened window click “Select from”/“Query remote databases” icon.
- Select a registry
(first or the last in the list).
- In the “keyword” field enter “SDSS” and hit “Enter”.
- Select SDSS DR8.
- Click “Enter Query” button.
- Use ADQL Text area enter an SQL query



Available TAP Services

Registry:

Keywords:

Match Fields: ☒ Short Name ☒ Title

☒ Accept Resource Lists

△ Short Name	Title
SDSS DR3	SDSS DR3 – Sloan Digital Sky S
SDSS DR5	SDSS DR5 – Sloan Digital Sky S
SDSS DR6	SDSS DR6 SEGUE – Sloan Digi
SDSS DR7	SDSS DR7 – Sloan Digital Sky S
SDSS DR8	SDSS DR8 – Sloan Digital Sky S

ADQL Text

☒ Synchronous

Binning data

- SQL:
group by

Plot number of galaxies as a function of redshift from the Photoz table

SQL query for MS SQL Database Server*:

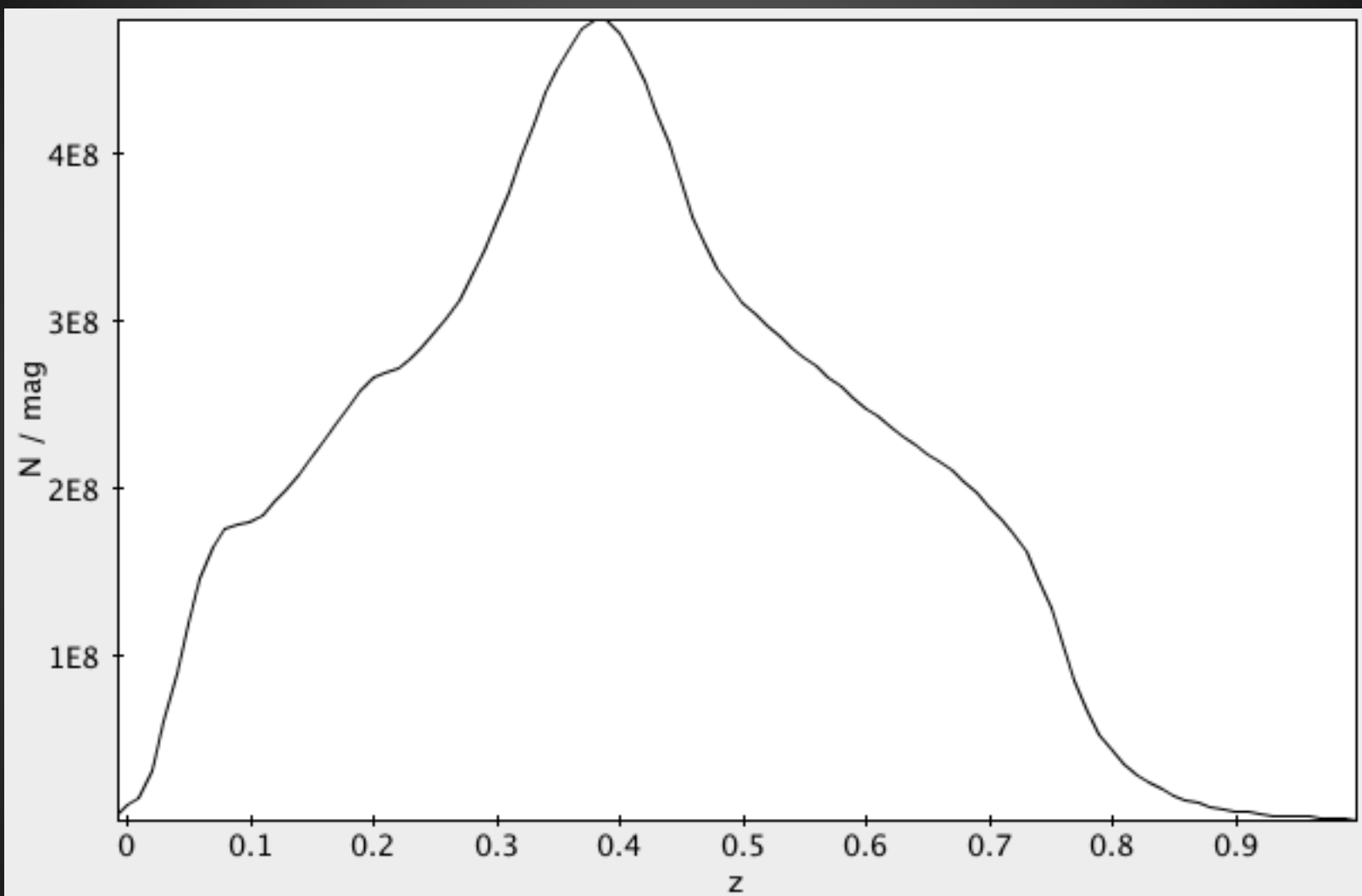
```
select avg(z) as z, count(*) as n  
from photoz  
group by round(z,2) order by z
```

* <http://skyserver.sdss3.org/dr9/en/tools/search/sql.asp>

Plot number of galaxies as a function of redshift from the Photoz table

```
select avg(z) as z, count(*)/0.01 as n from  
(select round(z,2) as z_bin, z as z from photoz) t  
group by z_bin order by z_bin
```

- Check data columns used for the X and Y axis (z vs n).



Cross matching catalogues

- Select FIRST Survey Catalogue server
`select top 100 ra, dec from firstSource`

Cross matching catalogues

- Open “Multiple cone search” window
- Find an SDSS DR8 server (hit enter in the keyword field then select the server from the list)
- Select latest search result as an input table
- Select Ra and Dec fields (if not automatically selected)
- Hit “Go”. In case of error reduce parallelism to 2 or even 1.

Cross matching catalogues

- Export objID values to a csv file.
- Edit the file in your favorite editor so all id values are separated with comma.

Cross matching catalogues

- Copy ids from the file and paste into the query:

```
Select * from Photoz where objID in (<paste>)
```