We can do this data collection more quickly, more easily, and more accurately using some simple code!

Use the SQL query search function on SDSS SkyServer: <https://skyserver.sdss.org/dr18/SearchTools/sql>

Enter the following query:

SELECT TOP 10000 s.bestObjID,

s.z

FROM fGetNearbyObjEq(194.773928832701,28.01976030835,46.5) n, SpecObj s

WHERE n.objID=s.bestObjID AND

s.sourceType='GALAXY' AND

s.z BETWEEN 0.005 and 0.04

* Items in blue are the columns to output
* Items in green are the position to search near and the search radius in arcmin
* The pink chunk searches all objects with spectra
* The purple chunk limits my search to galaxies
* The orange chunk limits my search to objects with redshifts 0.005 < z < 0.04

Choose CSV as the output format and save the file it produces

The creates a spreadsheet where the first column is the object ID and the second column is the redshift, just like we did!

Notice that the first couple of rows of the spreadsheet have some information about the columns. We don’t want to include those in our data, so we can modify our call to np.loadtxt by adding skiprows=2 to tell it to ignore those first 2 rows