Lloyds Banking Group

Data Analyst Incubation Program

Crib Sheets, Cheat Sheets and Troubleshooting

What is a crib sheet?

Navigating technical documentation can be challenging for even the most experienced of data analysts so they tend to make use of short cuts where possible. One of the handiest techniques we can recommend as you start your data analysis journey is creating a crib sheet for yourself – or even better, collaborating with colleagues on a single crib sheet.

A crib sheet is a go to set of reminders, notes, and useful links that support the type of work the data analyst does. It does not have to be tidily laid out (though it can help navigation if it is) but it should be on one searchable page. It should be a persistent resource – stored in the cloud somewhere so you can always reach it, regardless of if you are working on a different laptop than usual or jumping between projects.

Your crib sheet platform should be flexible enough to store copied bits of code, images, website links and screenshots. The best platforms we suggest are: Pinterest, OneNote, Google Keep and a digital whiteboard like Miro or Canva are useful tools for this reason. Try to avoid making notes on your desktop or starting new Word documents that you later lose.

One advantage of creating your own personalised crib sheet is that once you have earned familiarity with a technique you can remove that content from the crib sheet, thus clearing out some space for the next set of code that you are not comfortable with. For example, while learning pandas I would at first have simple previews functions like .head(), .tail(), .info(), .describe() on there, but later I could replace those with aggregation functions, methods for combining data frames and my favourite EDA plots.

How to get started creating your crib sheet

Once you have chosen your platform either make some headings or divide your page into sections – these can be organised around types of data tasks you will likely undertake (cleaning, engineering, statistics) or specific tools (Python, SQL, Power BI).

Start adding content as you work through your projects. Be consistent! Every time you hit upon a useful page in the documentation, found a nice article that explains a lot of concepts, or have written some good code, take a second to copy and save it onto to your crib sheet. It will save you so much time in the future!

Pre-created cheat sheets

Of course, you are not the first person to want a little organised help in

the code department – so plenty of cheat sheets have been put together and most are available for free to download.
Pandas cheat sheet
SQL cheat sheet
Tableau cheat sheet
Statistics cheat sheet
Power BI cheat sheet
Machine learning cheat sheet

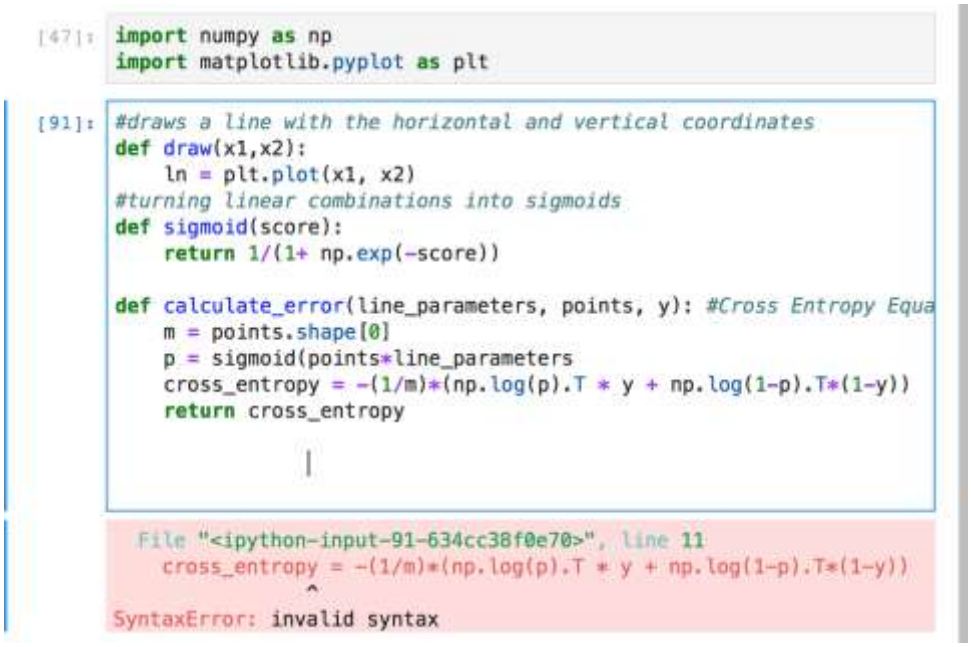
But these are just a selection of those you can find on the internet!

Troubleshooting tips

Depending on the platform you are using, there are some straightforward pathways to getting help when things go wrong for you.

Python / Pandas syntax, Machine Learning libraries

The first thing to keep in mind is that errors in Jupyter notebook always look scary, with plenty of coloured text, indicators, and text. The best thing to do is scroll to the bottom of the error message and look for the final line of the error block before the next valid cell, which normally indicates what the actual problem is. The most common error is a syntax error (invalid syntax) which should visually indicate where the problem is. For example:



Other common errors and built-in exceptions are:

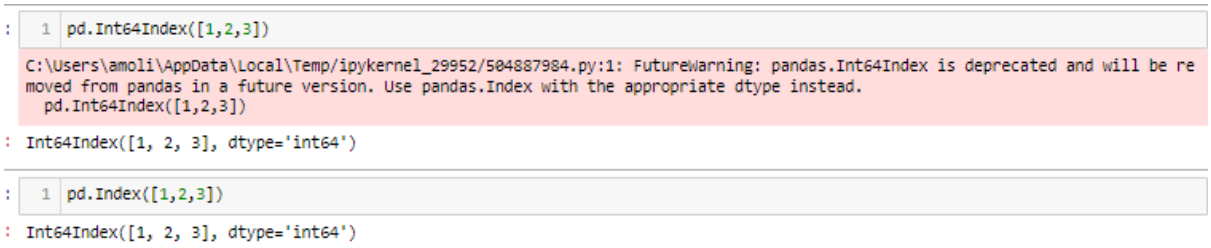
- type errors

- reference errors
- OS errors (like file not found)
- attribute errors which will present consistent error messages

This link contains information on built-in exceptions in python : https://www.w3schools.com/python/python_ref_exceptions.asp

The easiest way to identify a resolution for such built-in exception error messages in Jupyter notebook is to copy the final line of the text within the error message and search for this same text in Stack Overflow.

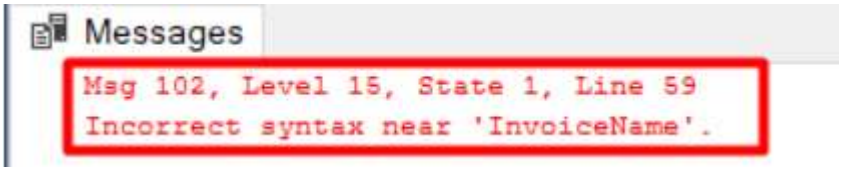
Warnings that appear in Jupyter notebook to be frightening but are just that – a warning. You should read the text displayed – it is helpful to recognise what the problem is because it will keep coming up if not resolved. Common reasons include deprecated libraries or features and not following best practices in your code. The best advice for warnings is (rather than continually ignore them) copy the warning text, and search Stack Overflow for a possible resolution. Future warnings can also be turned off directly in the notebook using the warnings module.



Library specific errors, such as problems with training models from the scikit-learn library, would be resolved by copying those error messages and putting them into a search engine. This will typically lead you to a common problem discussed on Stack Overflow, a known bug or version mismatch, or else you will end up at the technical documentation for the appropriate library.

SQL Server Management Studio and SQL syntax

SQL query errors in SSMS typically include some elements of relevant information which will help with your troubleshooting. The most common error is a syntax error, and this type of error message can be used to identify where the syntax problem is – especially if you switch on the line numbers in the query editor window or double click the error message to be taken to the relevant line in the query window.



Server errors also contains error numerical codes which, through a search engine, will typically lead you to a Stack Overflow article or SQL forum with information about the error and potential resolution.

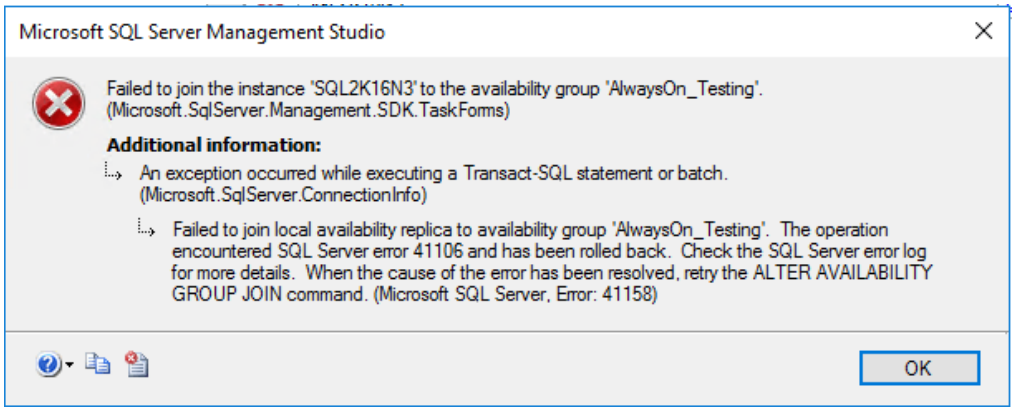


Tableau & Tableau

Tableau and Power BI have active forums which users can post specific questions to and search for related content to errors they encounter.

https://community.fabric.microsoft.com/t5/Power-BI-forums/ct-p/powerbi

https://community.tableau.com/s/

All versions of BI software have reported bugs so it's worth checking known issues and version releases if you have observed what appears to be an unresolvable system bug.

https://www.tableau.com/products/all-features

https://learn.microsoft.com/en-us/power-bi/fundamentals/desktop-change-log

Final Tip

Grepper is a great add on for Google Chrome that suggests code solutions directly under the search bar. A big timesaver!

https://chromewebstore.google.com/detail/grepper/amaaokahonnfjjemodnpmeenfpnnbkco?pli=1