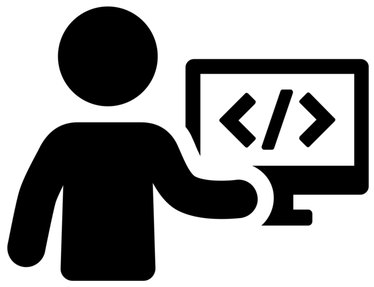
Come Query the ASCL with our new API!



ASCL.net
Astrophysics Source Code Library
Making Codes Discoverable for 20 Years

The problem: Obtaining ASCL data

The Astrophysics Source Codes Library (ASCL, ascl.net) is a registry of software written for astronomy and astrophysics research.

Previously, searching the ASCL's database was only possible through the website ascl.net, and search functionalities were limited to simple text matching of public database fields.

There was no way to either programmatically search the database or obtain ASCL data through code without web-scraping.

The solution: Creating a REST API

The ASCL API allows for advanced search functionality through an HTTP request. Searches can be fielded or unfielded and can return a variety of different data with special filtering options.

Some fields that are available to query are:

- Abstract
- Keywords
- Views
- Citation method
- ...and more!

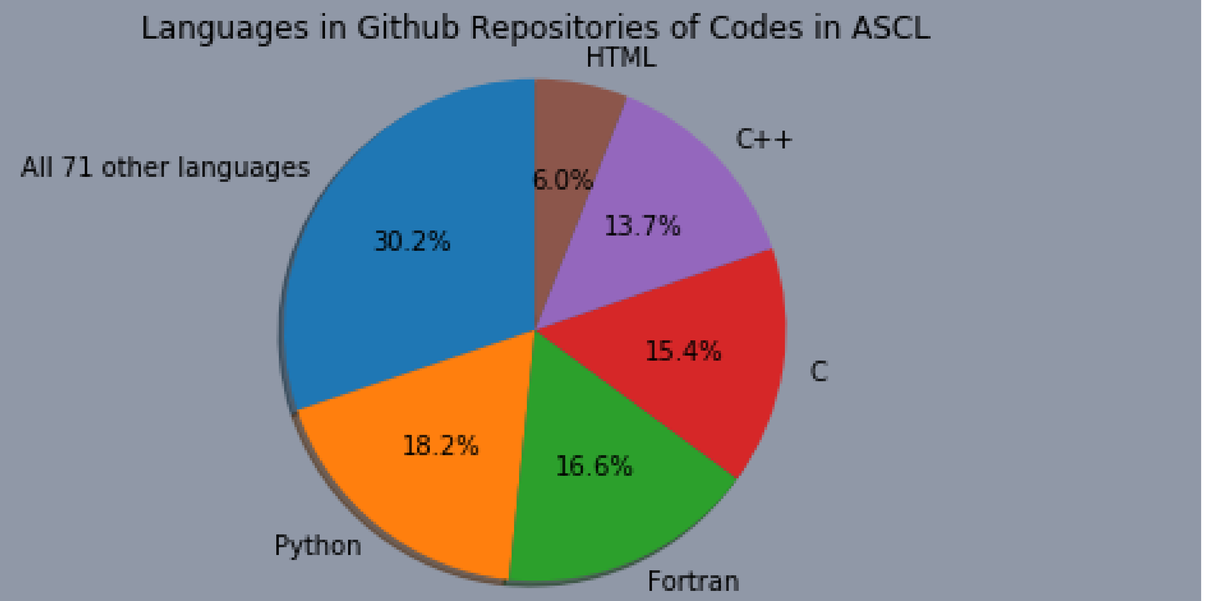
The Query

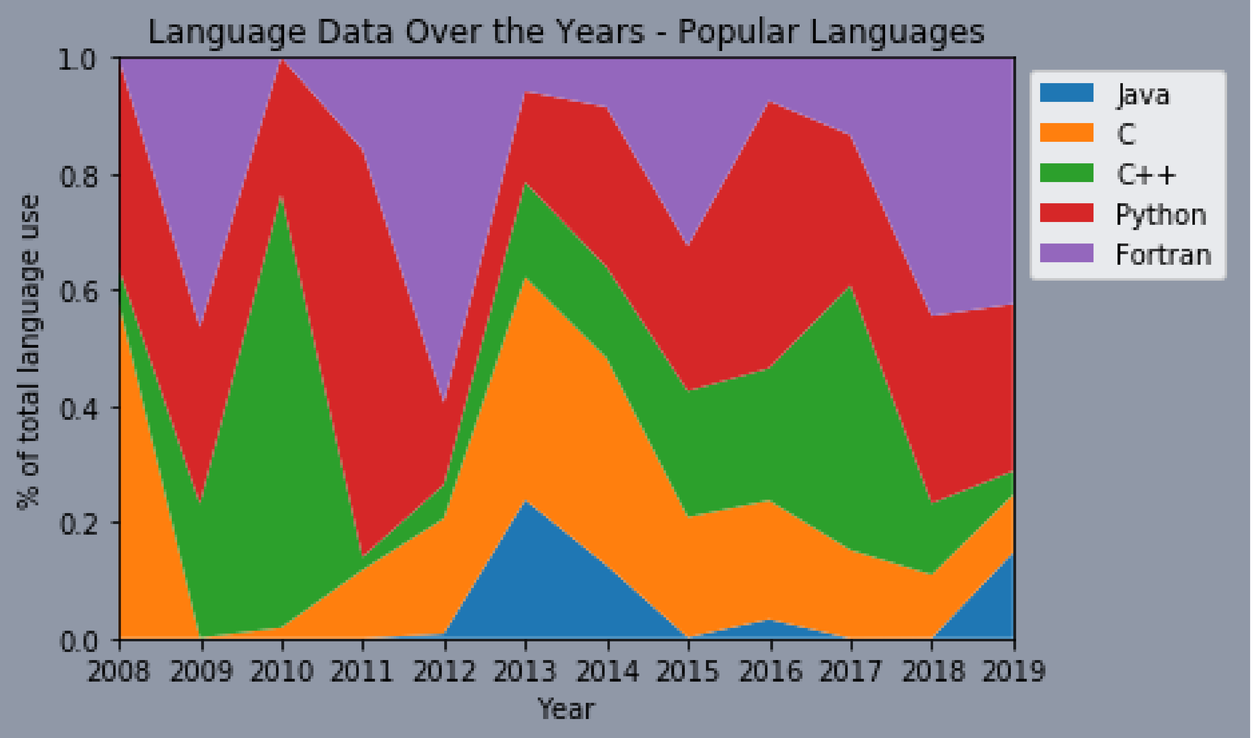
A researcher came to ASCL with a question:
What amount of codes in astrophysics and astronomy are written in interpreted languages vs. compiled languages, and how has that changed over time?

To answer this question, we:

1. Queried the ASCL API for sites and years of upload for all codes.
2. Filtered for sites that contained links to publicly available GitHub repositories.
3. Queried GitHub's API to provide a list of languages used in each repository.
4. ***Organized and visualized the data!***

View our code at https://github.com/teuben/ascl-tools/





Further resources

Complete documentation for the API can be found at https://github.com/teuben/ascl-tools/tree/master/API

With the API, we hope to see greater adoption of the ASCL as a resource for answering academic questions!

Authors and acknowledgements

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