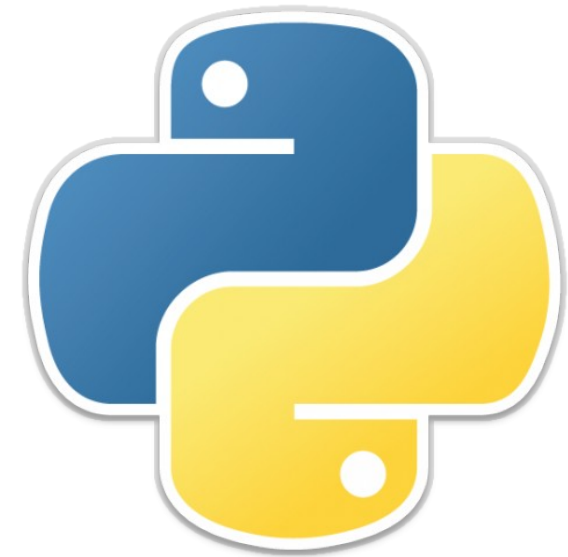


The World of Python

Tushar B. Kute,
<http://tusharkute.com>



- Created in 1990 by Guido van Rossum
 - While at CWI, Amsterdam
 - Now hosted by centre for national research initiatives, Reston, VA, USA
- Free, open source
 - And with an amazing community
- Object oriented language
 - “Everything is an object”

History

A Short History Of Python



Why name Python?

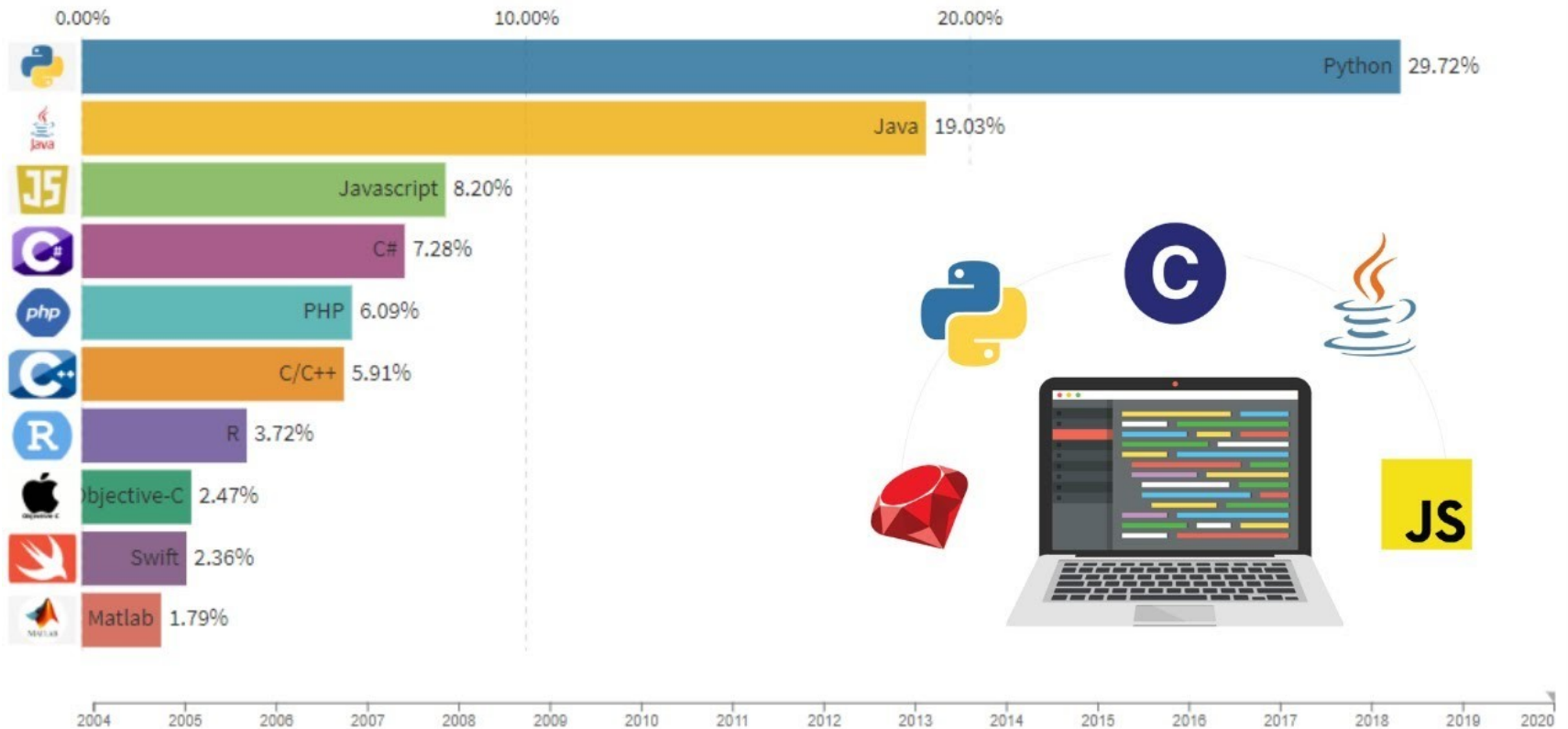
- When he began implementing Python, Guido van Rossum was also reading the published scripts from “Monty Python’s Flying Circus”, a BBC comedy series from the 1970s.
- Van Rossum thought he needed a name that was short, unique, and slightly mysterious, so he decided to call the language Python.

Python features



Popular Coding Languages

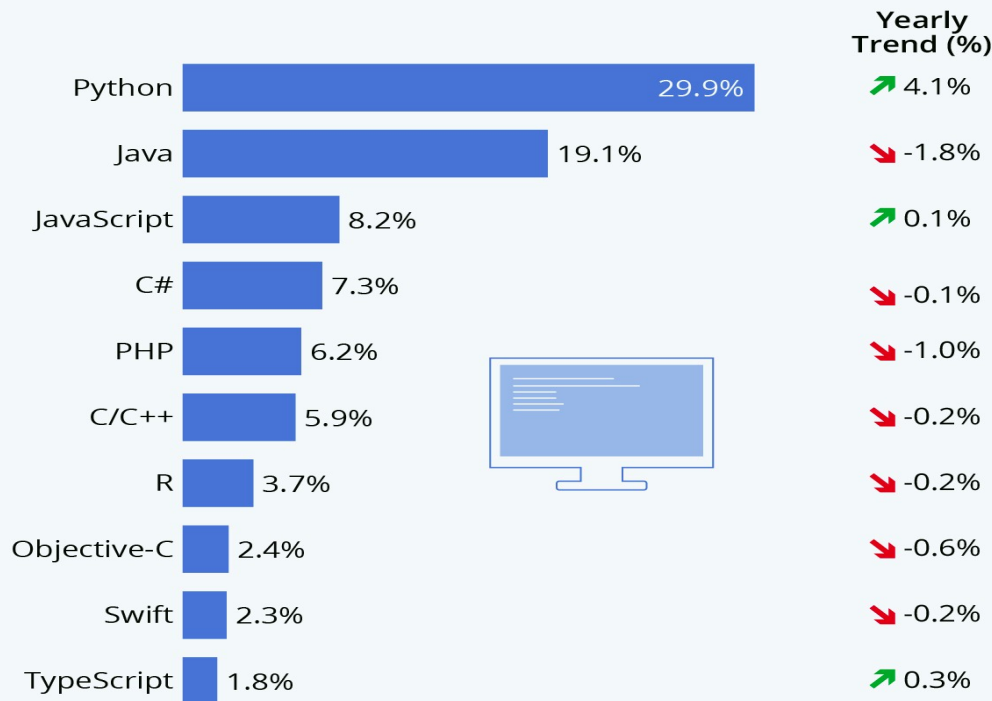
Top 10 Most Popular Programming Languages
2004 to 2020



Google Search Trends by Stastista

Python Remains Most Popular Programming Language

Popularity of each programming language based on share of tutorial searches in Google



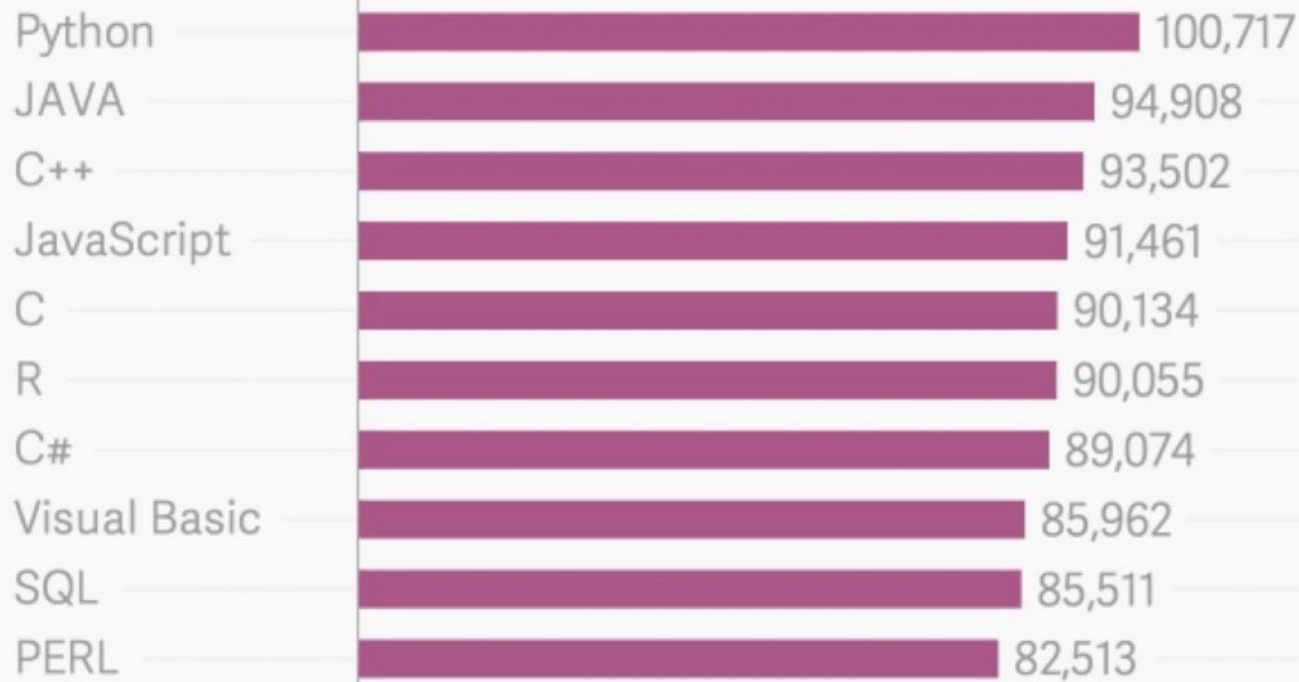
Yearly trend compares percent change from Feb 2019 to Feb 2020
Sources: GitHub, Google Trends



Programming Languages

The most valuable programming skills to have on a resume

Average salary value of skill



Quartz | qz.com

Data: Brookings/Burning Glass

Business Broadway

Top 3 programming languages popular among data scientists

(percent of respondents)



Python



SQL



R

Data Source: Business Broadway

Top languages: Coding infinite

Worldwide, Oct 2019 compared to a year ago:

| Rank | Change | Language | Share | Trend |
|------|--------|-------------|---------|--------|
| 1 | | Python | 29.49 % | +4.5 % |
| 2 | | Java | 19.57 % | -2.4 % |
| 3 | | Javascript | 8.4 % | +0.1 % |
| 4 | | C# | 7.35 % | -0.4 % |
| 5 | | PHP | 6.34 % | -1.2 % |
| 6 | | C/C++ | 5.87 % | -0.4 % |
| 7 | | R | 3.82 % | -0.2 % |
| 8 | | Objective-C | 2.6 % | -0.7 % |
| 9 | | Swift | 2.57 % | -0.1 % |
| 10 | | Matlab | 1.87 % | -0.2 % |

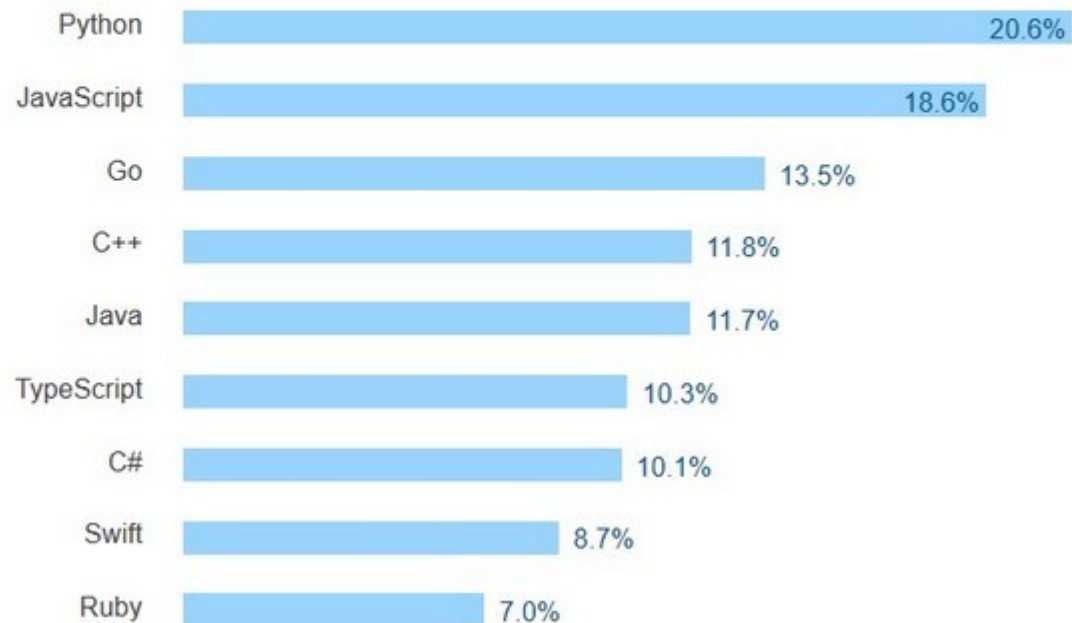
Most wanted Language: Stack Overflow

Most Loved, Dreaded, and Wanted Languages























Loved

Dreaded

Wanted

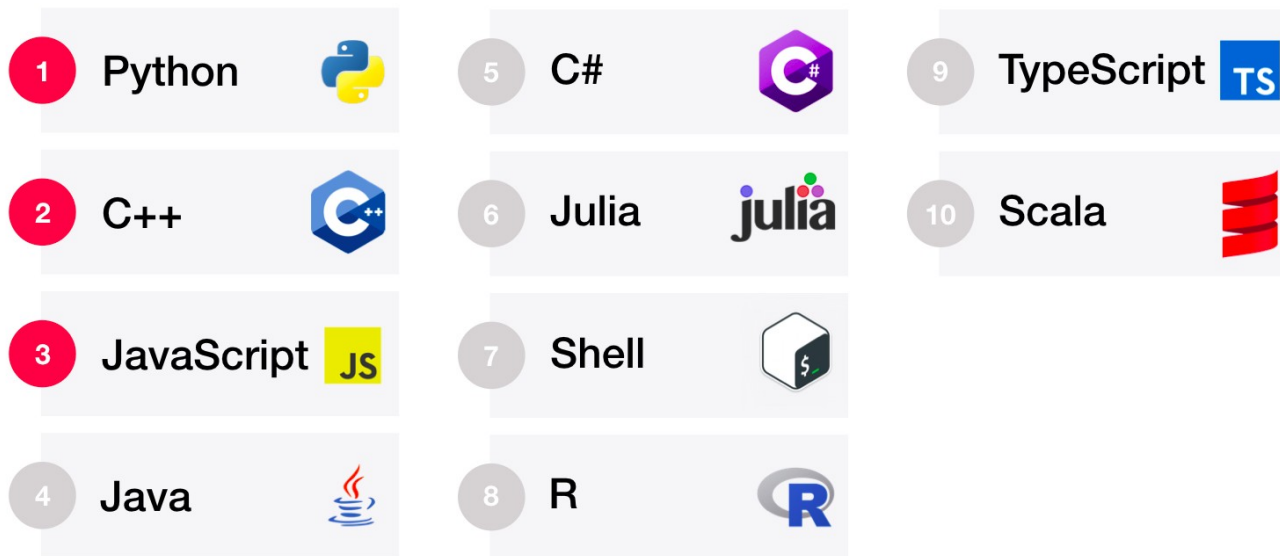


Top languages: IEEE Spectrum

| Language Rank | Types | Spectrum Ranking |
|---------------|---|------------------|
| 1. Python |    | 100.0 |
| 2. C++ |    | 99.7 |
| 3. Java |    | 97.5 |
| 4. C |    | 96.7 |
| 5. C# |    | 89.4 |
| 6. PHP |  | 84.9 |
| 7. R |  | 82.9 |
| 8. JavaScript |   | 82.6 |
| 9. Go |   | 76.4 |
| 10. Assembly |  | 74.1 |

Top languages: Github

Top Machine Learning Languages on Github



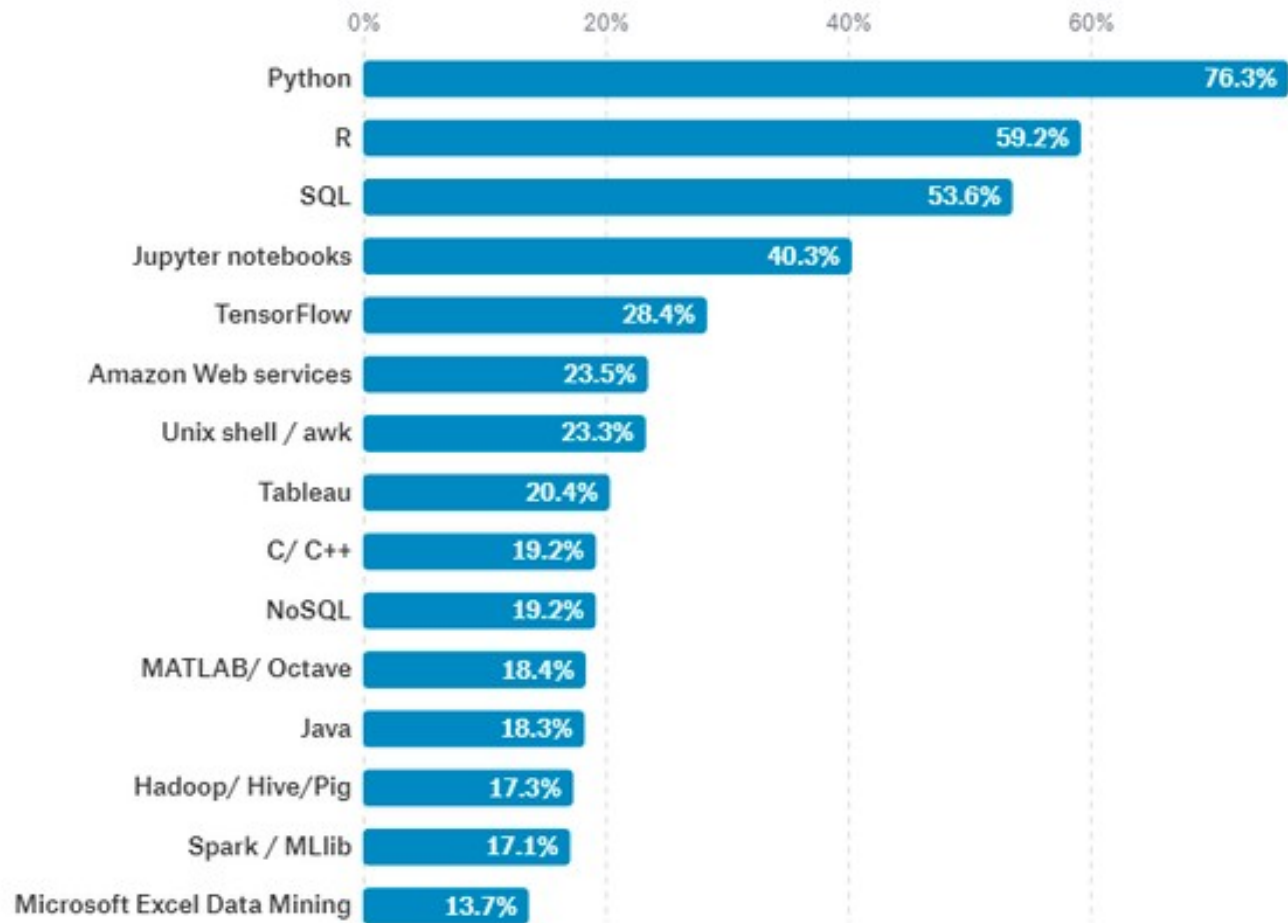
Source: Github

TuringTribe.com

Marketability: IEEE Spectrum



Data Science : Quora Results

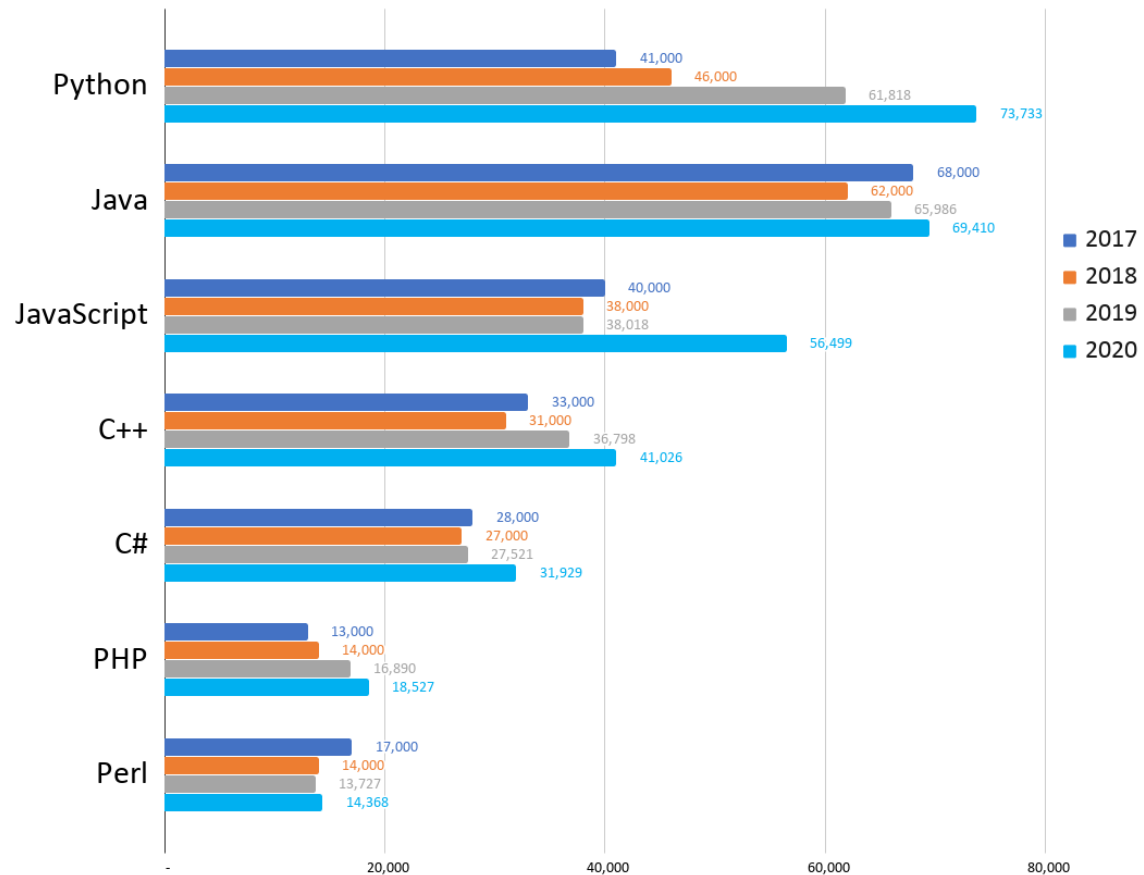


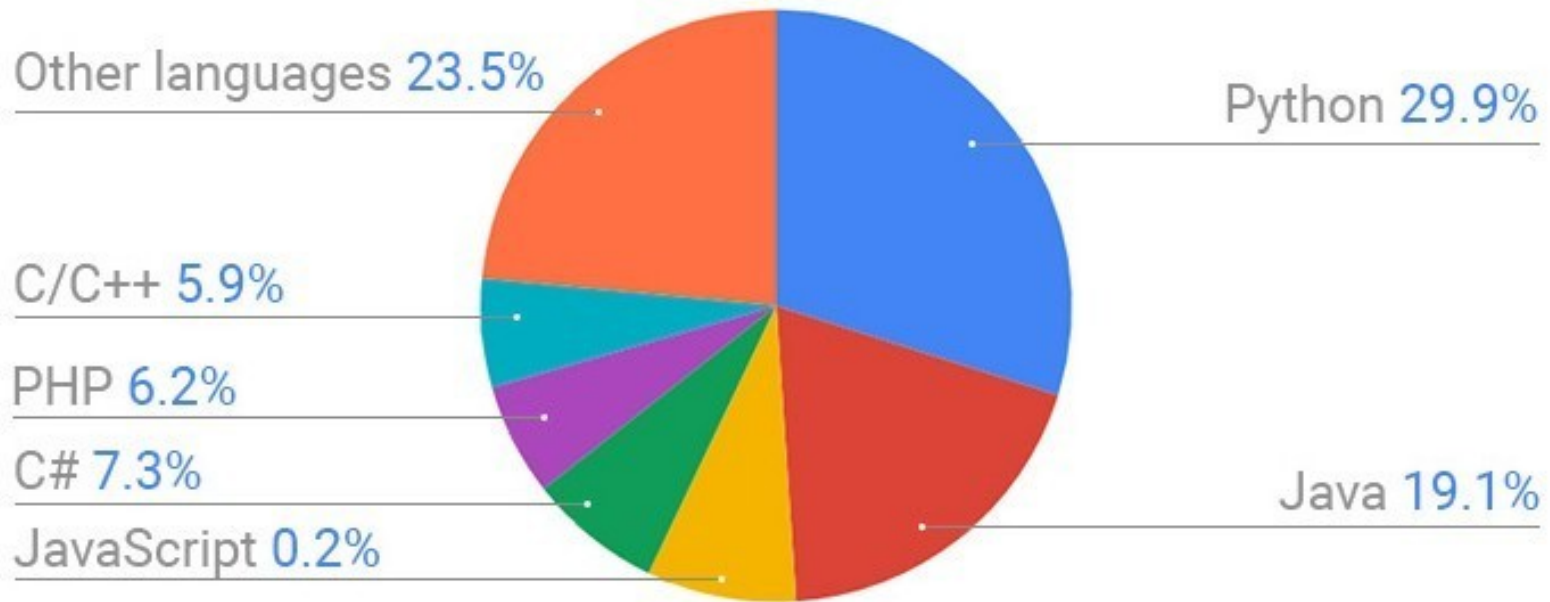
7,955 responses

Only displaying the top 15 answers. There are 38 answers not shown.

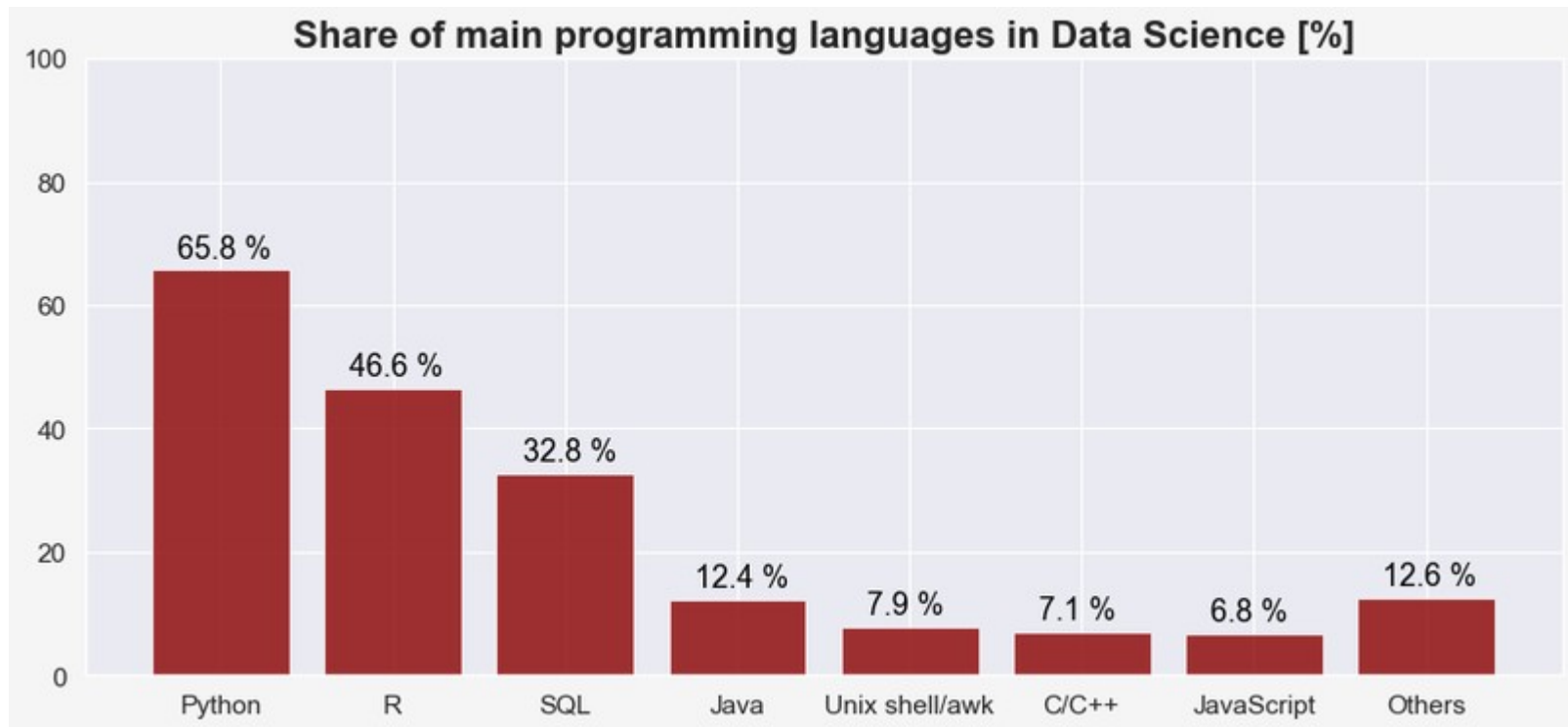
Coding Dojo

How do our usual languages fare?
Worldwide jobs on indeed.com

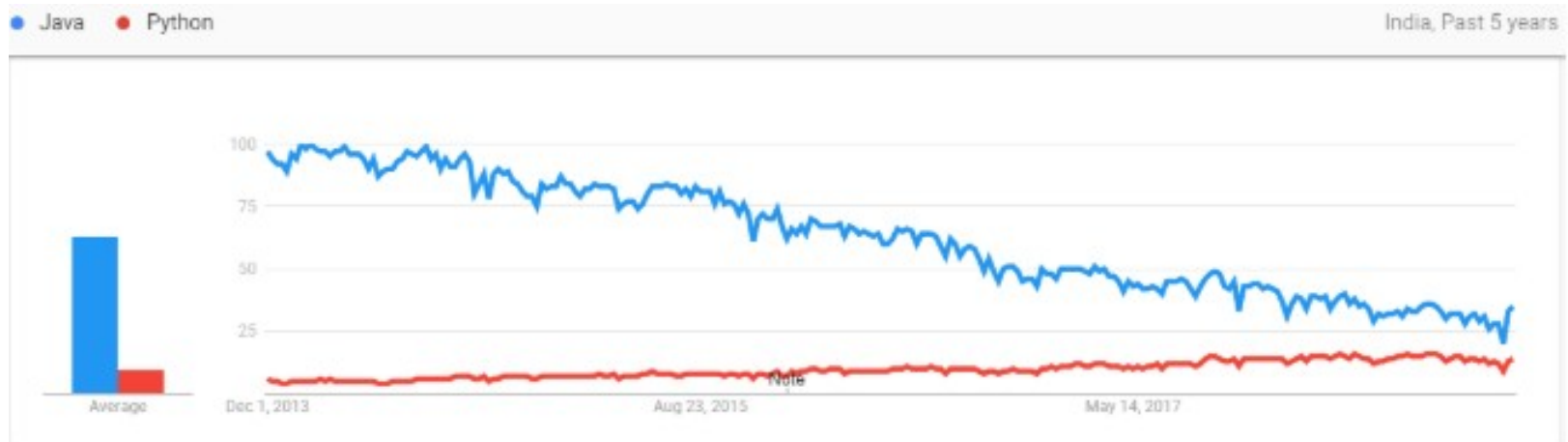
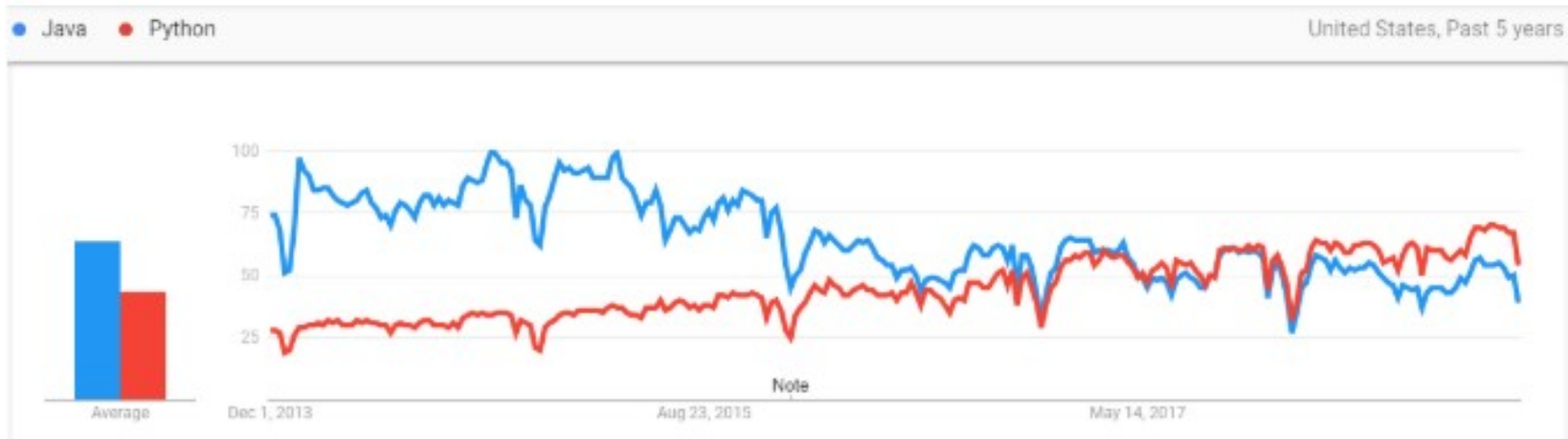




Python vs. Others (Data Science Coffee)



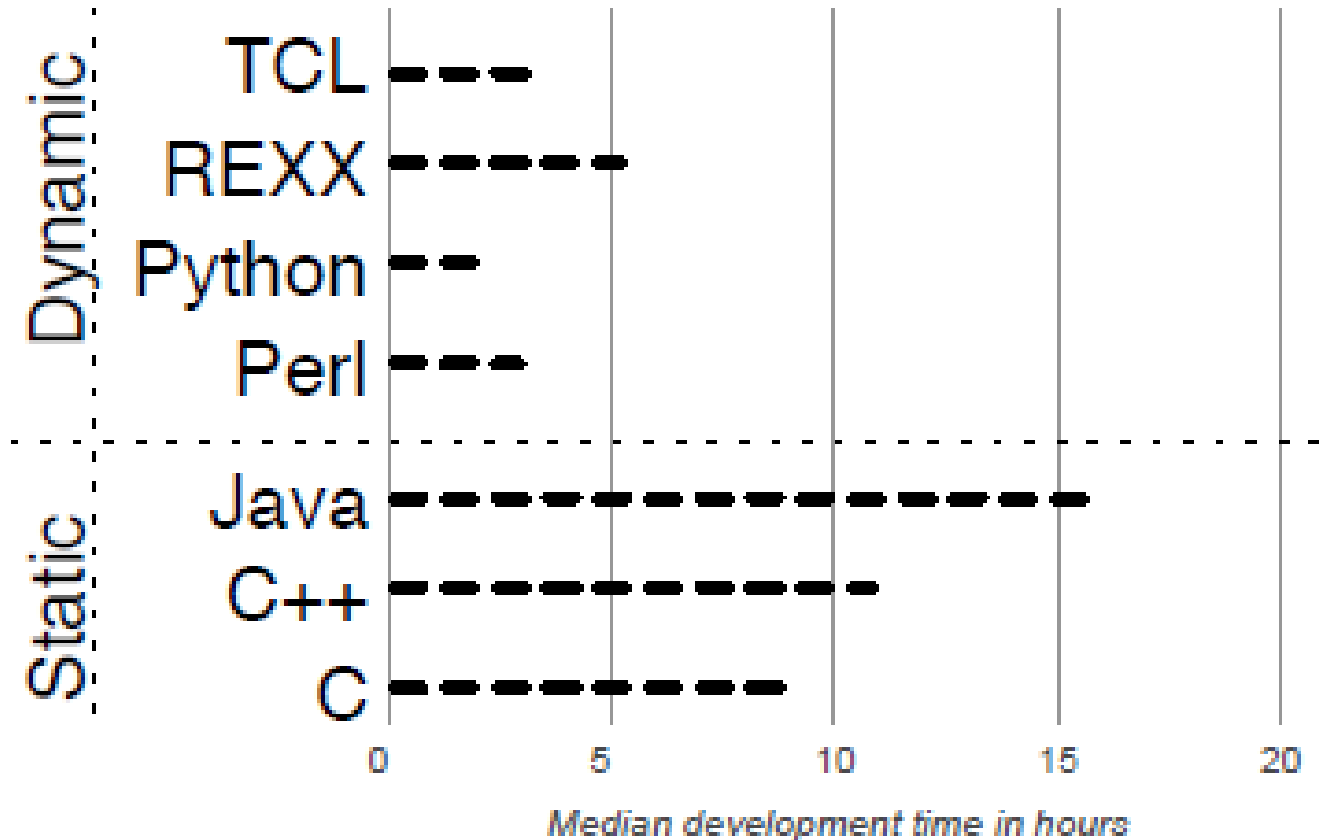
Java vs. Python



Language Comparison

| | Python | Ruby | JS/ Node.js | C/C++ | Java | Go |
|-------------------------------------|--------|------|----------------|-------|------|----|
| semicolons | N | N | Y | Y | Y | N |
| curly braces | N | N* | Y | Y | Y | Y |
| static types | N | N | N | Y | Y | Y |
| compiled | N | N | N | Y | Y | Y |
| OO: classes, inheritance | Y | Y | Y | Y | Y | N* |

Development time



Hello World

- C

```
#include <stdio.h>

int main(int argc, char ** argv)
{
    printf("Hello, World!\n");
}
```

- Java

```
public class Hello
{
    public static void main(String argv[])
    {
        System.out.println("Hello, World!");
    }
}
```

- now in Python

```
print "Hello, World!"
```

Programming Languages



Java

```
public class CrawlerExample {

    public static void main(String[] args) throws IOException {
        PrintWriter textFile = null;
        try {
            textFile = new PrintWriter("result.txt");
            System.out.println("Enter the URL you wish to crawl..");
            System.out.print("@> ");
            String myUrl = new Scanner(System.in).nextLine();

            String response = getContentByUrl(myUrl);

            Matcher matcher = Pattern
                .compile("href=[\\\"'](?:[^\"]|')+[\\\"'])").matcher(response);
            while (matcher.find()) {
                String url = matcher.group(1);
                System.out.println(url);
                textFile.println(url);
            }
        } finally {
            if (textFile != null) {
                textFile.close();
            }
        }
    }

    private static String getContentByUrl(String myUrl)
        throws IOException {
        URL url = new URL(myUrl);
        URLConnection urlConnection = url.openConnection();
        BufferedReader in = null;
        StringBuilder response = new StringBuilder();
        try {
            in = new BufferedReader(new InputStreamReader(
                urlConnection.getInputStream()));
            String inputLine;
            while ((inputLine = in.readLine()) != null) {
                response.append(inputLine);
            }
        } finally {
            if (in != null) {
                in.close();
            }
        }
        return response.toString();
    }
}
```

Coding. Crawler

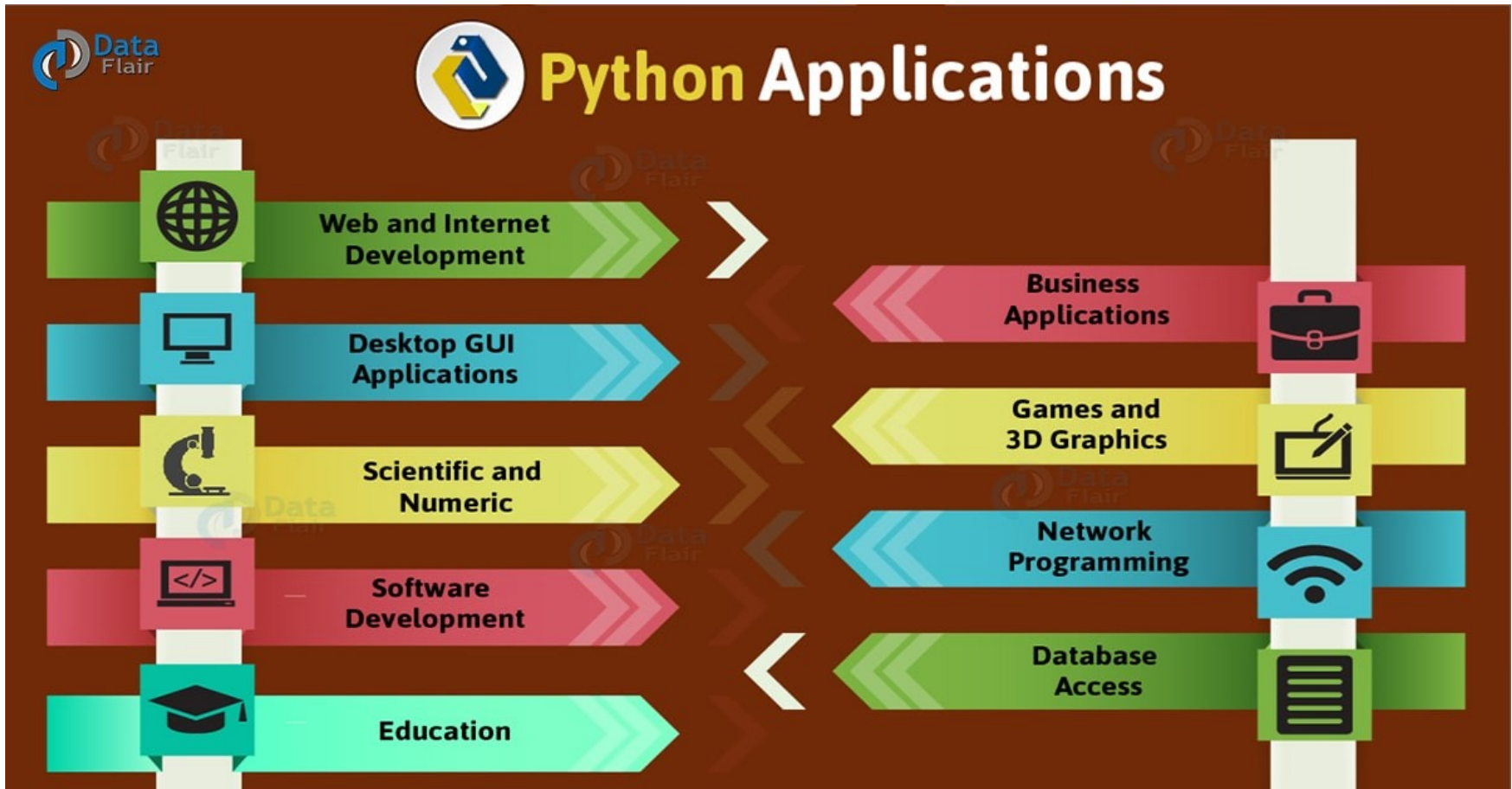


Python

```
if __name__ == '__main__':
    with open("result.txt", "wt") as textFile:
        print("Enter the URL you wish to crawl..")
        myUrl = input("@> ")
        for i in re.findall("href=[\\\"'](?:[^\"]|')+[\\\"'])",
            urllib.request.urlopen(myUrl).read().decode(), re.I):
            print(i)
            textFile.write(i + '\n')
```



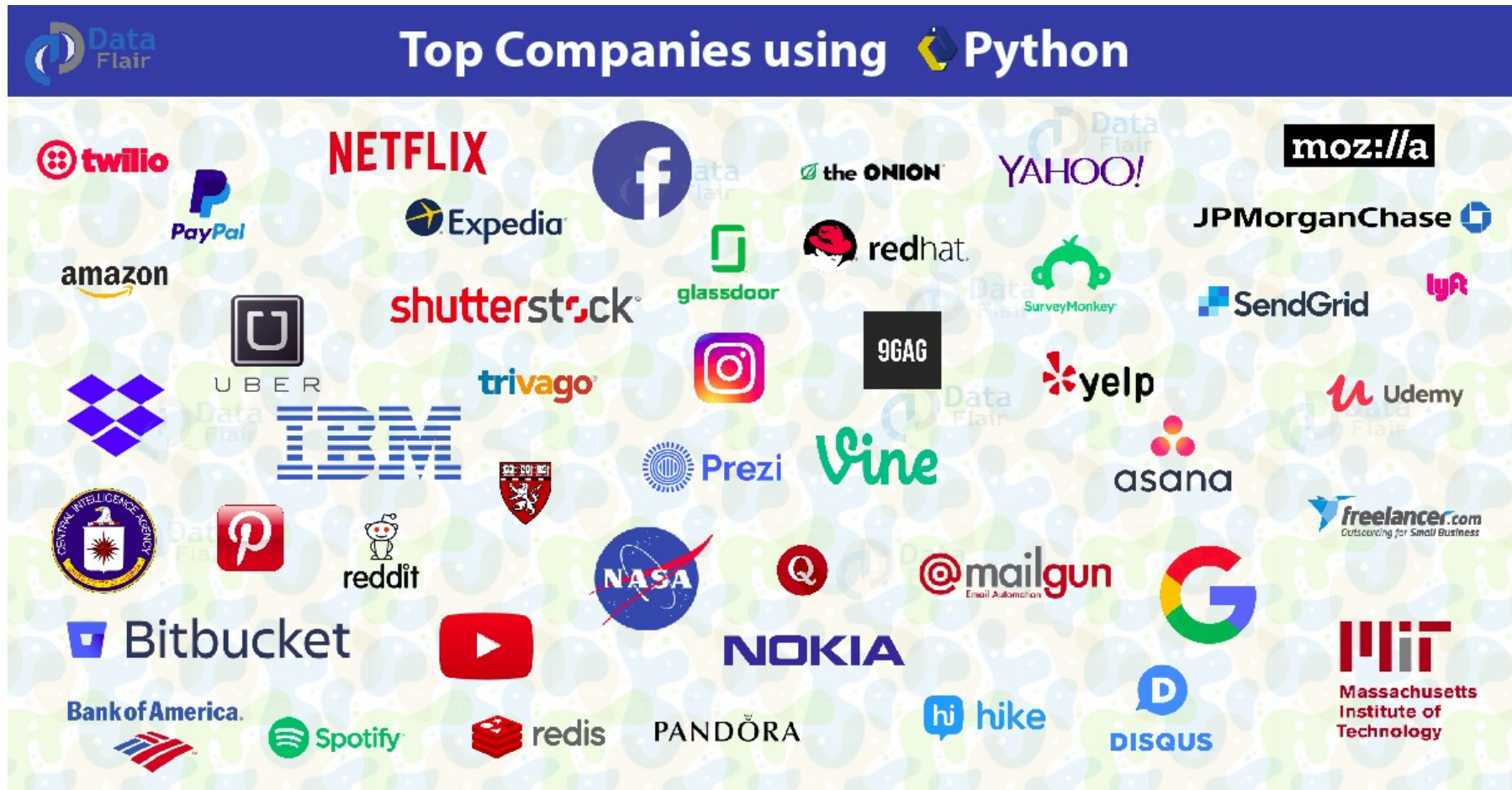
Python Applications



Projects based on Python

- Websites: Google, YouTube, Yahoo Groups & Maps, CIA.gov
- Systems: NASA, LALN, CERN, Rackspace
- Games: Civilization 4, Quark (Quake Army Knife)
- Mobile phones: Nokia S60 (Symbian), PythonCE
- P2P: BitTorrent

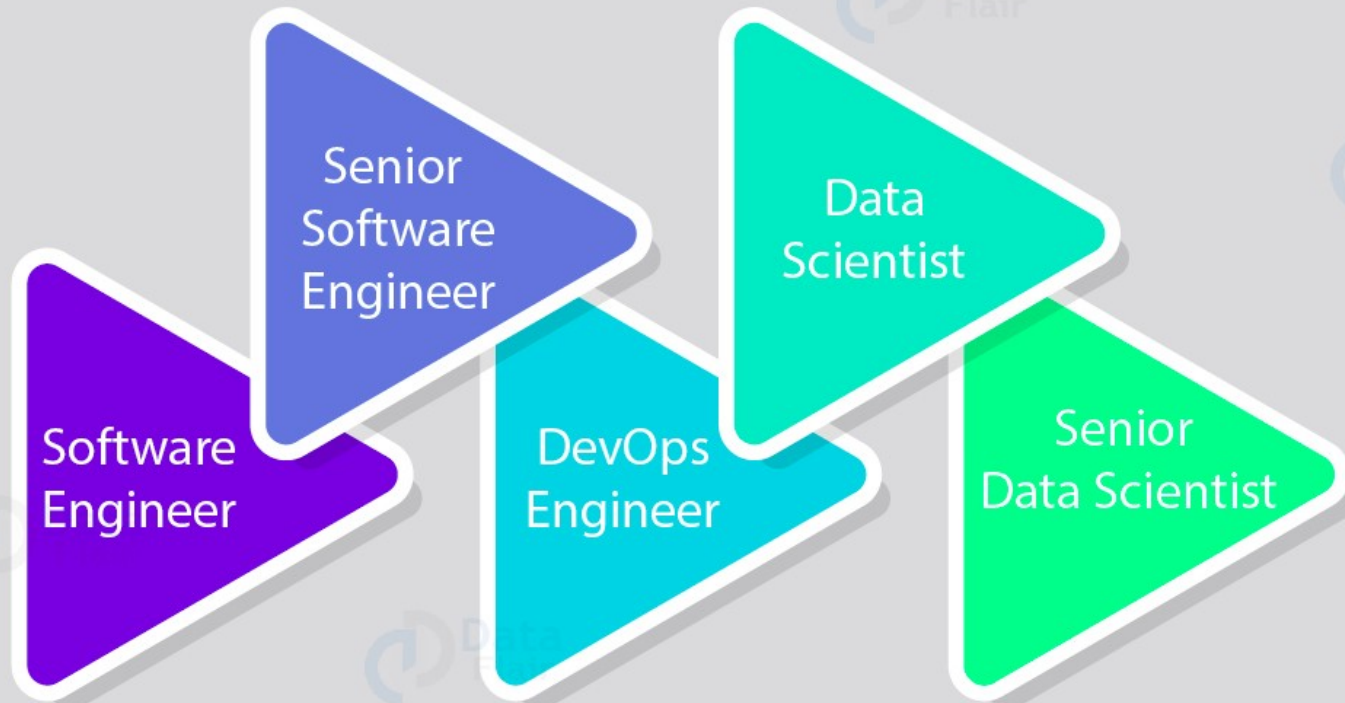
<https://www.python.org/success-stories/>



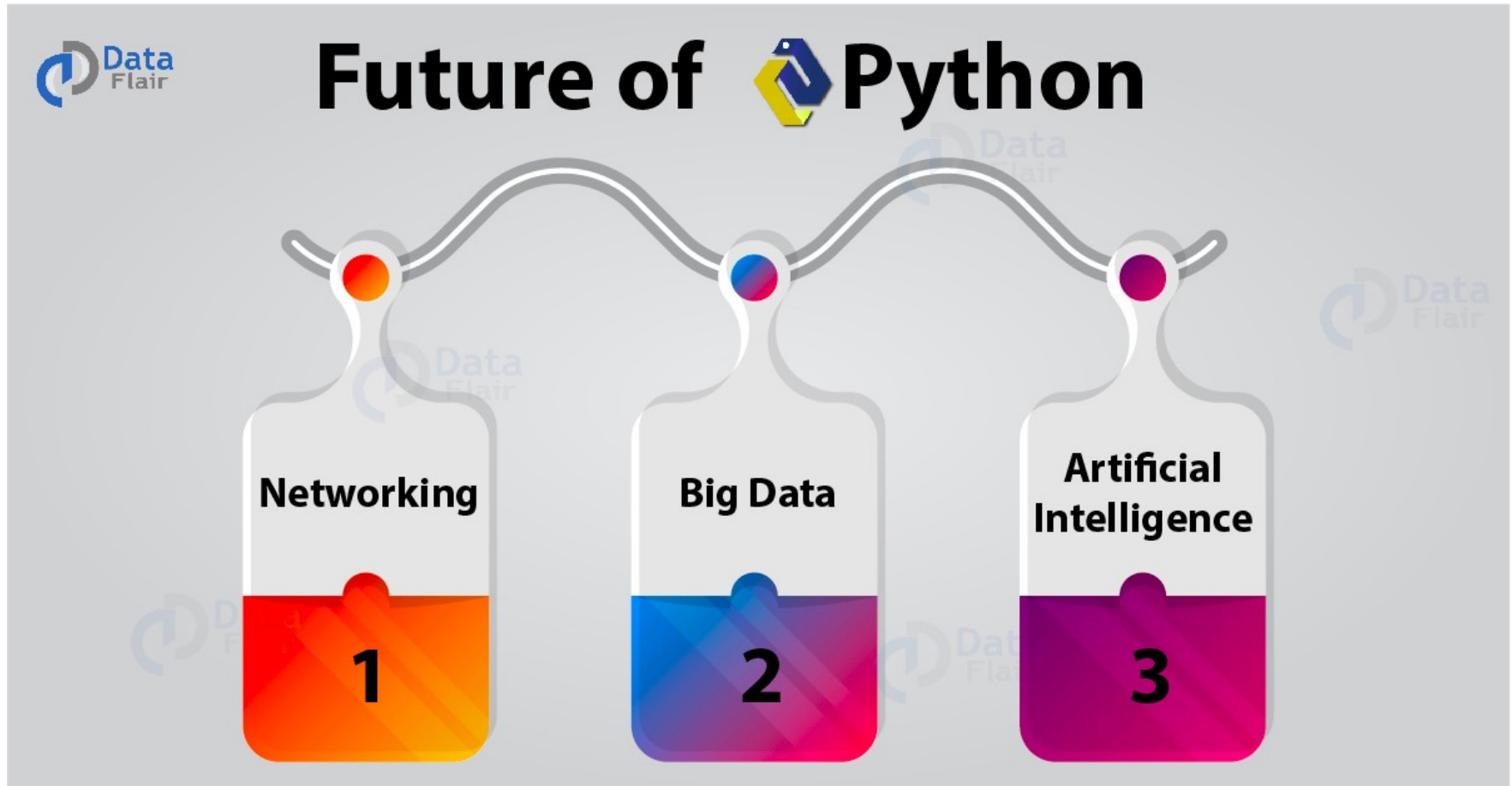
Job Opportunities



Types of Python jobs



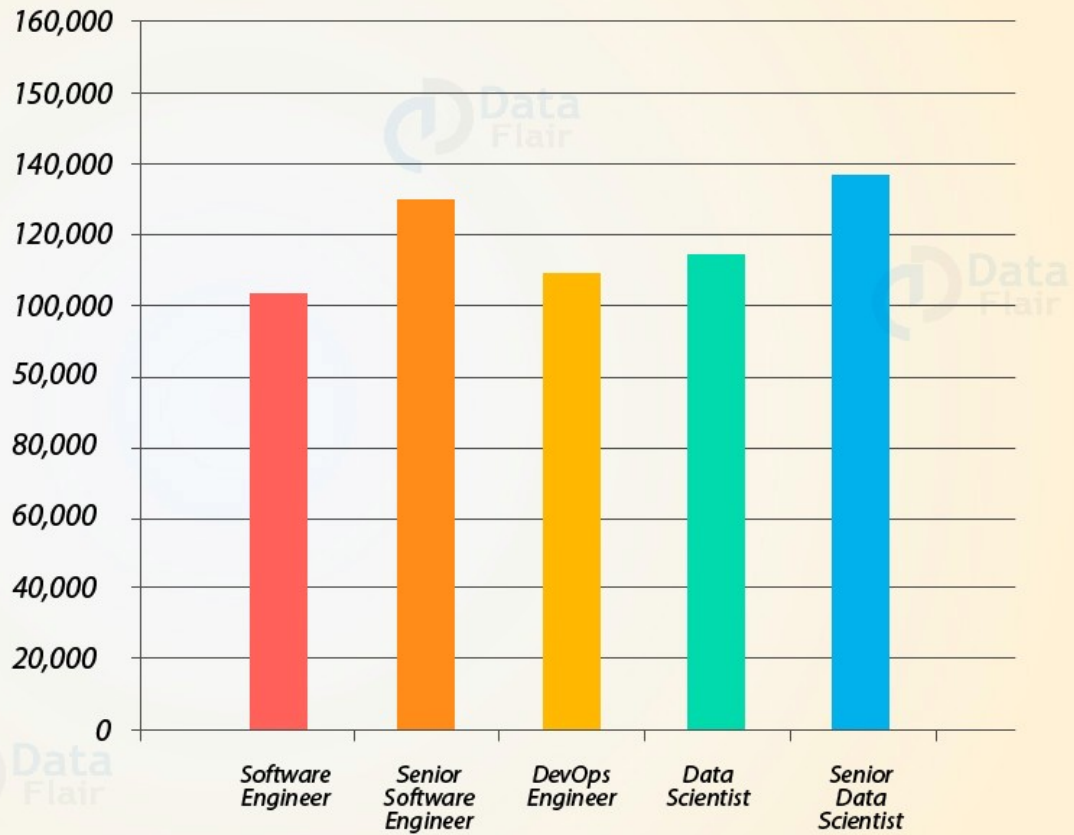
Future of Python



Payscale



Python Payscale





**KEEP
CALM
AND
CODE
PYTHON**

Thank you

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Web Resources

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