

# Engie Code Club: with Wakefield College



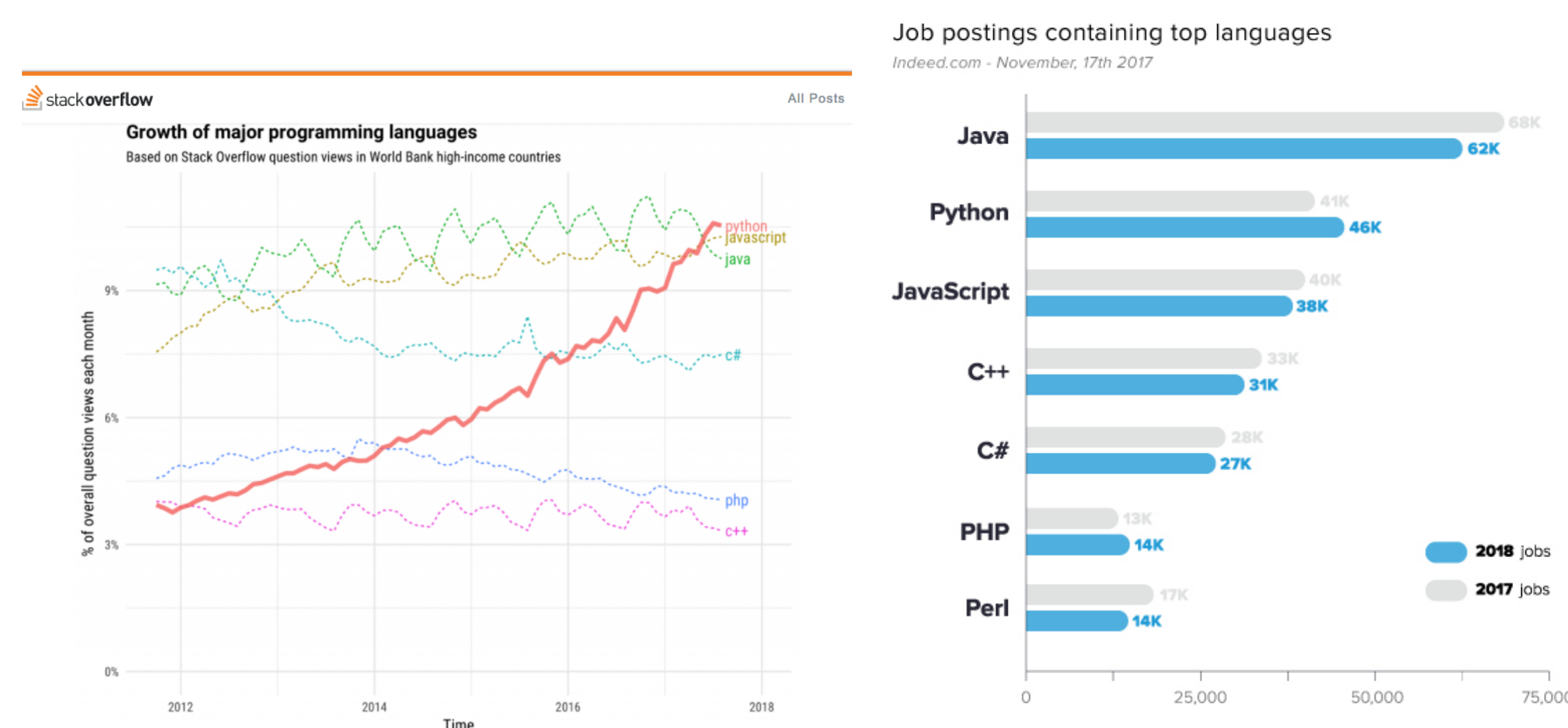
working in partnership with  
**wakefieldcouncil**

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## Course Overview

The Engie Code Club will be offering an introductory course for programming and analysing data in Python.

- Python is the fastest growing programming language over the past few years.
- Having some experience will help you stand out in the job market or get you ahead of the game in university.
- These sessions are open to anyone interested in learning python, although some parts may be more suitable to those doing science and maths subjects.
- No experience needed - come along and discover your talent!



## Session 1: Introduction

This session will focus on some of the basics that will help us to translate, understand and write code in Python. By the end of the session we will be reading in data and using libraries to help us visualise the data.

- Set up and IDE's
- Python data types, objects and attributes
- Pandas library for data structures
- Matplotlib/Seaborn for visualisation



## Session 3: GUI Automation

PYAUTOGUI is a great library in Python that allows us to control the mouse and keyboard with some code. There are some interesting applications such as:

- Social media robots
- Automatic clicking
- Drawing in apps like MS paint
- Screenshot capturing

## Session 4: Modelling Weather Data

In this session we will make use of some of the open source data available on historic weather conditions to predict extreme conditions. Civil engineers often work with mathematicians on these models as they must build structures that will be able to withstand these conditions.

- Introduction to mathematical extreme value models
- Access open source data
- Predict extreme conditions for your dataset



## Session 2: Web Scraping - Twitter

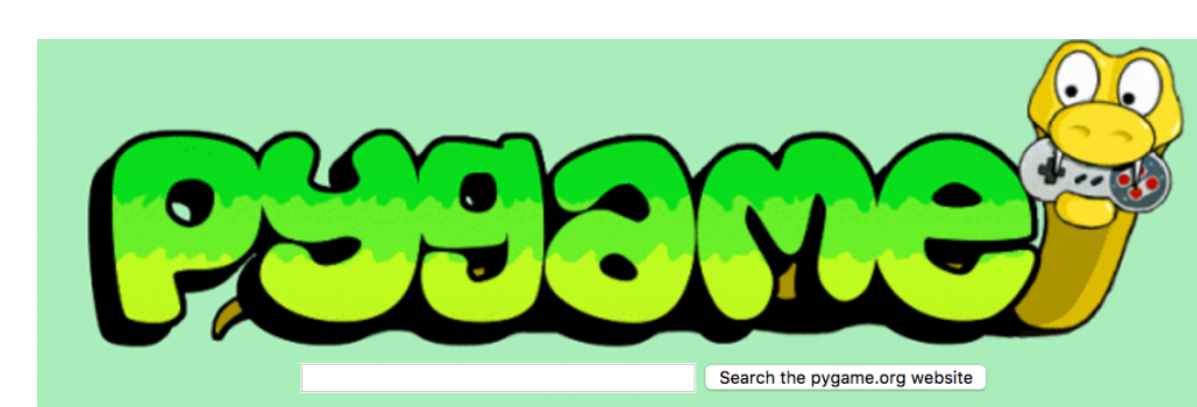
In this session, we will all get Twitter developers accounts which will allow us to quickly analyse tweets via web scraping.

- Get developers account
- Scrape all tweets with a specific hash tag
- Analyse the overall general sentiment of these tweets



## Session 5: Creating a Game with Pygame

- Pygame is a library that allows users to create their very own games
- We will recreate a template of a popular game style
- And get creative with the graphics



## Reading List

- <https://www.w3schools.com/python/>
- <https://www.learnpython.org/>
- <https://www.codecademy.com/learn/learn-python>
- <https://stackabuse.com/the-best-python-books-for-all-skill-levels/>