

# Modern Programming Languages

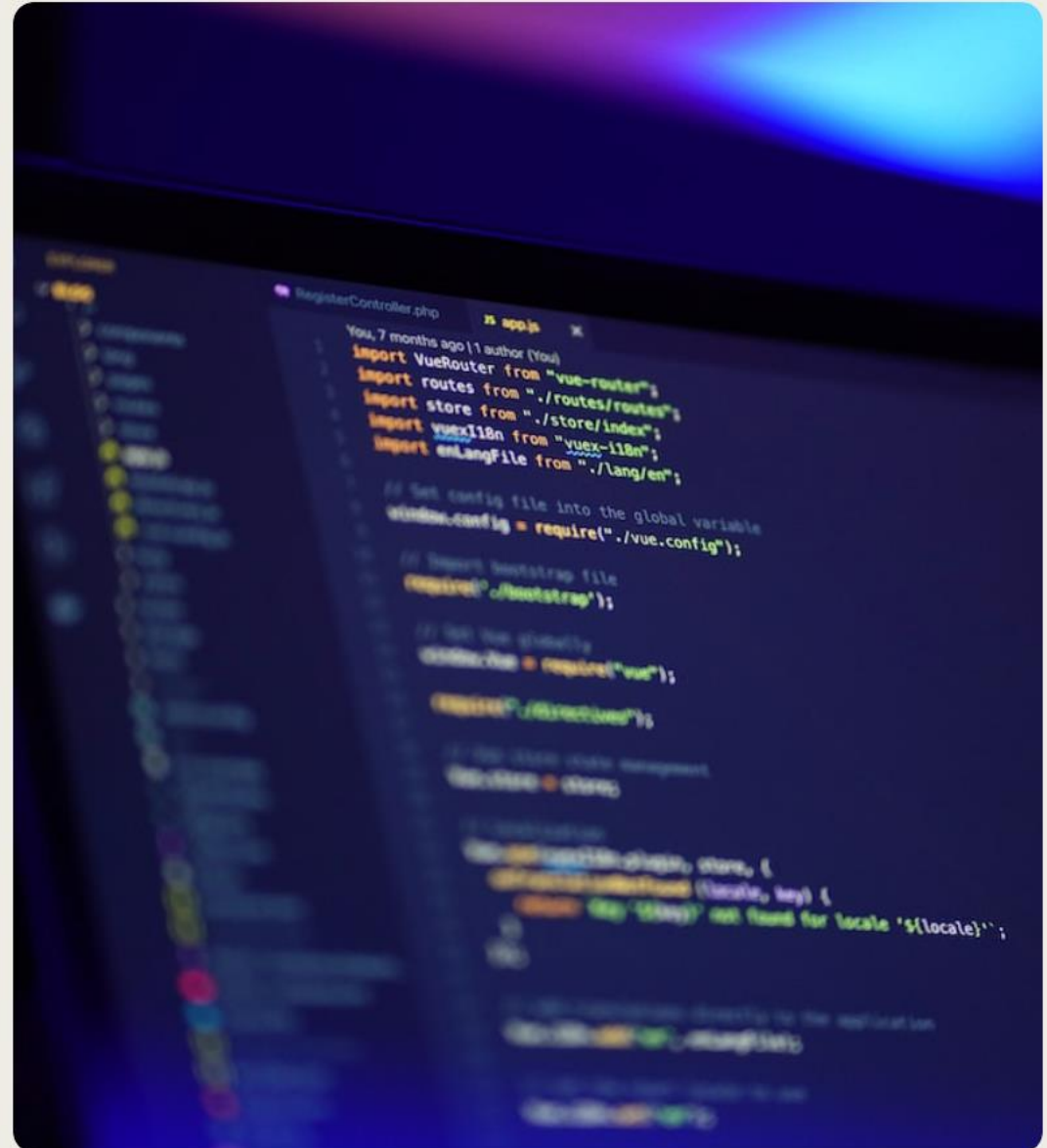
Exploring the latest programming languages and their applications in software development.

# Introduction to Modern Programming Languages

Programming languages are the backbone of software development, allowing developers to create applications and systems that power our modern world. In recent years, several new programming languages have emerged that offer unique benefits and capabilities for developers. In this presentation, we will explore some of the most popular modern programming languages and their applications in software development.

## Topics Covered

- Python
- JavaScript
- Swift
- Go
- C++





# Python

Python is a high-level, interpreted programming language that is widely used in scientific computing, data analysis, and web development. It was first released in 1991 and has since become one of the most popular programming languages in the world.

## Applications

Python is used in a variety of applications, including:

- Web development (Django, Flask)
- Data analysis and machine learning (NumPy, Pandas, Scikit-learn)
- Scientific computing (SciPy)
- Scripting and automation

# JavaScript

JavaScript is a high-level, interpreted programming language that is widely used in web development. It was created in 1995 by Brendan Eich while he was working at Netscape Communications Corporation. JavaScript is a versatile language that can be used for both front-end and back-end development, and it is an essential tool for building modern web applications.

## Applications

- Web development, including front-end and back-end development
- Mobile app development using frameworks such as React Native and Ionic
- Building desktop applications using Electron

```
Average;  
* FROM marks WHERE subject_ID=" + su  
(datasetsWithSubject) {  
  datasetsWithSubject.length > 0) {  
    subjectAverage = 0;  
    datasetsWithSubjectLength = datasets  
    datasetsWithSubject.forEach((dataset  
      subjectAverage += parseFloat(data  
    ;  
    subjectAverage =  
    subjectAverage / dataset  
  {
```





# Swift

Swift is a powerful and intuitive programming language developed by Apple for developing iOS, macOS, and watchOS applications. It was first introduced in 2014 and has since become one of the most popular programming languages for mobile app development.

## Applications

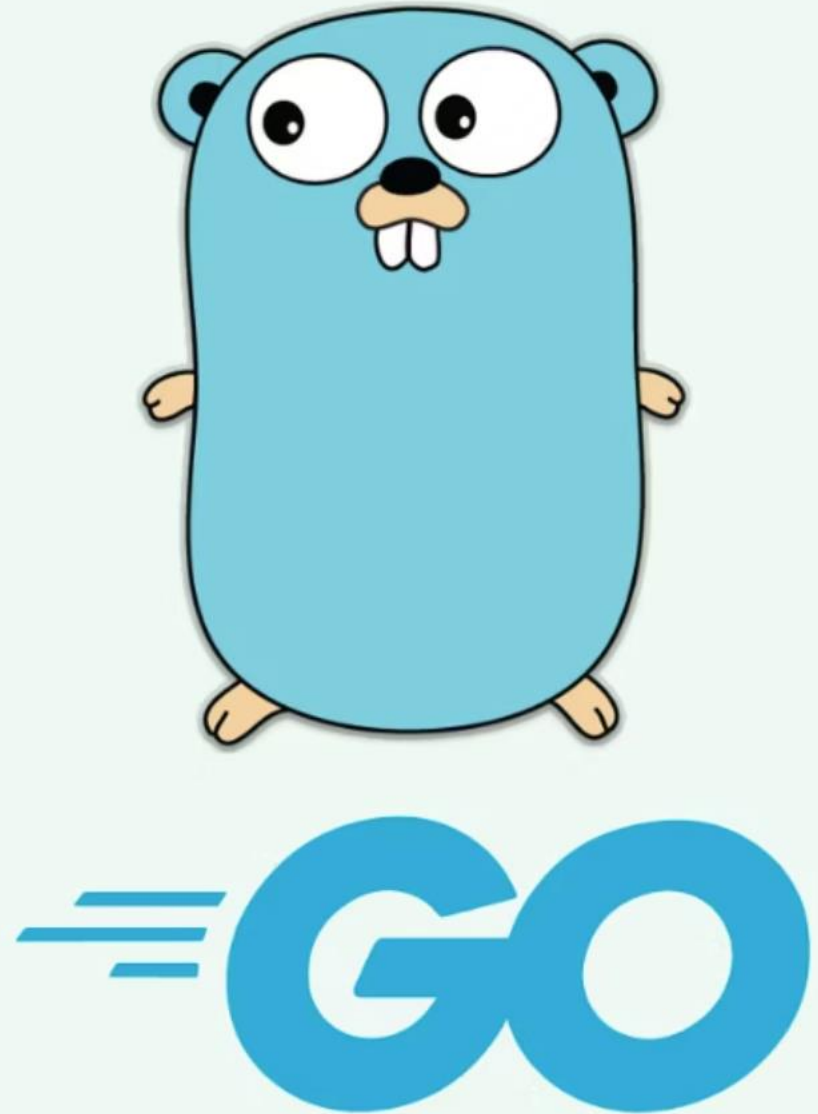
Swift is primarily used for developing iOS, macOS, and watchOS applications, but it can also be used for server-side development, web development, and more. Some popular apps built with Swift include Lyft, LinkedIn, and Airbnb.

# Go

Go, also known as Golang, is a programming language developed by Google in 2007. It is designed to be efficient, reliable, and easy to use. Go is a compiled language, which means that it is translated into machine code before execution.

## Applications

- **Web Development:** Go is often used for building web servers and APIs due to its fast performance and built-in concurrency features.
- **Networking:** Go's standard library includes packages for building network applications such as TCP/IP and HTTP servers and clients.
- **System Programming:** Go is often used for system-level programming due to its low-level features and ability to interface with C libraries.





## C++

C++ was developed by Bjarne Stroustrup at Bell Labs in the late 1970s and early 1980s as an extension of the C programming language. It was designed to be a high-level, portable, and efficient language for systems programming.

### Applications

- Operating Systems development
- Video game development
- GUI (Graphical User Interface) based applications
- Web Browsers



# C++

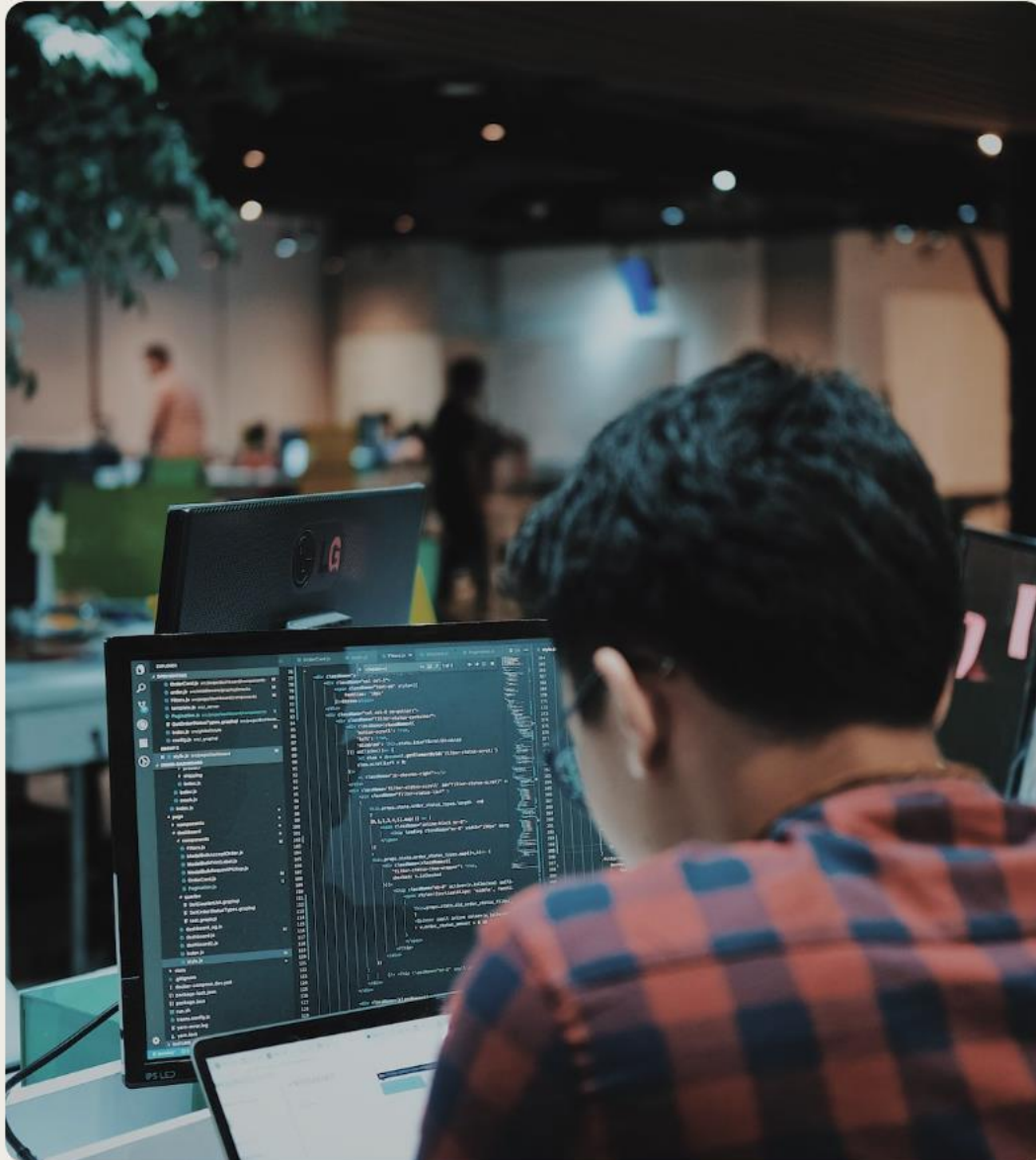
## Features

- Object-oriented programming support, including classes, objects, and inheritance.
- Templates, which allow for generic programming and type-safe programming.
- Multiple inheritance and virtual functions, which allow for more flexible and efficient code.



**Bjarne Stroustrup, the creator of C++**





## Summary

Modern programming languages have revolutionized software development and have made it easier to build complex applications. Python is a versatile language that is widely used for data analysis, machine learning, and web development. JavaScript is the backbone of the web and is essential for building interactive web applications. Swift is a powerful language for developing iOS and macOS applications, while Go is a fast and efficient language for building network applications.

## Conclusion

Each language has its strengths and weaknesses, and choosing the right language for a project depends on the specific requirements and goals. As technology continues to evolve, it's important for developers to stay up-to-date with the latest programming languages and tools.

