

Computer Languages

Just like how there are many human languages are many different *computer languages* that we use when working with computers. These include programming languages for writing software programs, as well as languages for representing content (like web pages) and other data. Each language has its own purpose, though some languages allow us to use different approaches to completing similar tasks. Most developers will only work with one or a few languages that are relevant to their goals. Let's take a look at some commonly used or otherwise interesting computer languages.

General-Purpose Programming Languages

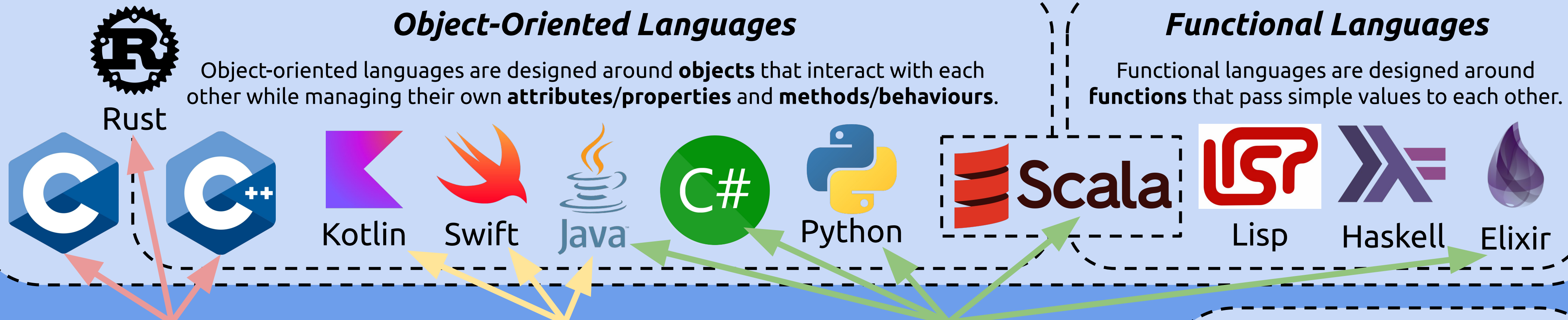
General-Purpose languages can be used to write software in many domains, such as web and desktop applications, web services, and data processing.

Object-Oriented Languages

Object-oriented languages are designed around **objects** that interact with each other while managing their own **attributes/properties** and **methods/behaviours**.

Functional Languages

Functional languages are designed around **functions** that pass simple values to each other.



System Languages

These fast and lightweight languages are often used for system software and embedded systems

Mobile Development

These languages are used to develop Android and iOS mobile applications.

Web Development

These languages have popular libraries for building the server-side components of web applications.

Other Kinds of Language

Visual Programming

Programming in languages like **Scratch** is done with blocks or other visual elements instead of text.



Data Formats

Data format languages like **JSON**, **XML**, **YAML** are commonly used when transmitting data between systems.

Assembly Language

Used to write very fast programs by giving low-level instructions directly to a computer's processor.

Domain-Specific Languages

Domain-specific languages are specialised for writing software in specific application domains.

Web Languages

Web pages are written in 3 languages that are interpreted by a user's web browser:

1. **HTML**: Provides the content of a web page.
2. **CSS**: Controls page layout and formatting.
3. **JavaScript**: For programming interactivity.



Command Languages

The languages of *shells* like **Bash** and **PowerShell** are used to write scripts that automate common tasks on a computer.

SQL

Structured Query Language (**SQL**) is used to read and write data in many databases.

Mathematics

Languages like **R**, **Matlab**, and **Octave** are designed for advanced maths.

